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The Journal of the Fire Protection Profession Since 1877

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NOVEMBER, 1940

Vol. 93, No. 11

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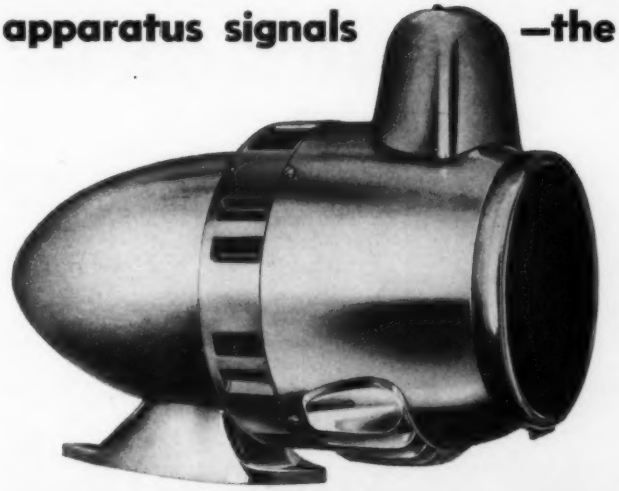

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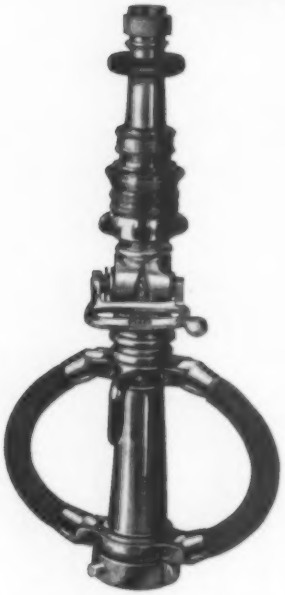

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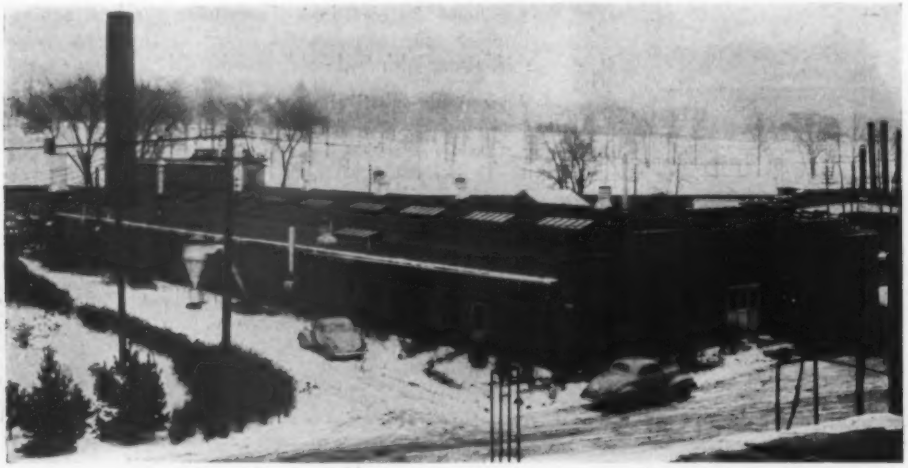

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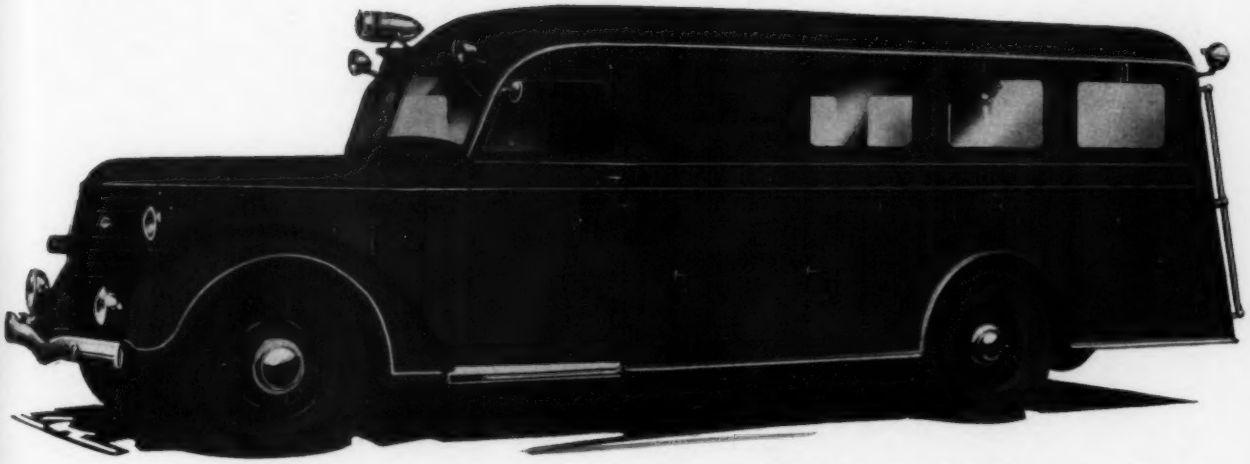

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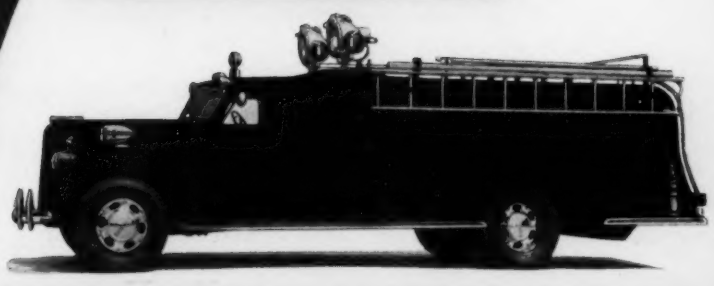

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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

FRED SHEPPERD
Editor
N. N. WOLPERT, Assistant Editor.

It's All One Now!

YOU recall the story of the housewife who identified her holiday baking of pies by marking them either "T.M." for "'tis mince" or "T.M." for "'taint mince."

● At this Thanksgiving time it's up to us to use a similar process, forgetting D for Democrat and R for Republican, and marking our Thanksgiving pies all A for American!

● With the need for widespread improvements and extensions in the fire protection of the country, FIRE ENGINEERING will deem it a privilege to cooperate in every phase of this widespread development. There is much to be done; let us be doubly thankful, this November, that we have the facilities, the brains and the man-power to accomplish all that is needed!

The Publishers

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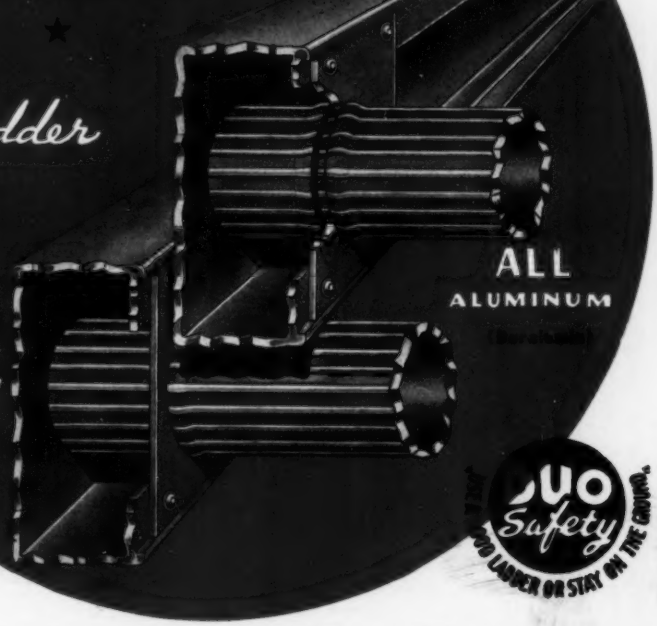

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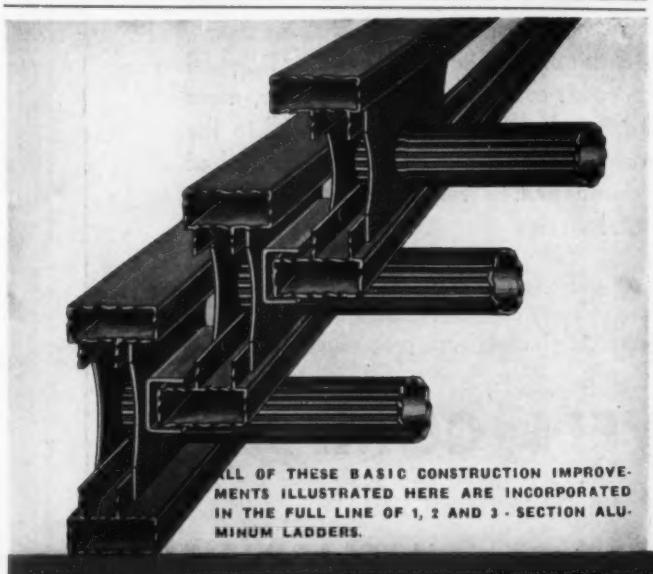

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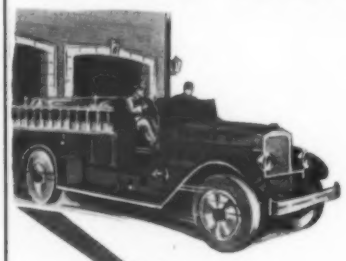

A conflagration hazard exists in practically every community, awaiting only the outbreak of fire under adverse circumstances such as storm, high wind, or skillfully planned sabotage, coupled with a Delayed Alarm to destroy in an hour the result of years of industry. Now, more than ever, with the security of the industrial processes essential to the National Defense at stake, time is the vital element in the control of fire, and only equipment of demonstrated reliability and efficiency should be considered for this vital service.

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NOVEMBER, 1940

FIRE ENGINEERING

VOL. 93. NO. 11

With the Editor

Hail to the A.F.S.! The Auxiliary Fire Service in Great Britain is performing a heroic service in protecting the large cities of that nation against destruction from the skies. If there had been any doubt about the ability of these "green" firemen to battle flames of conflagration proportions and to take punishment, such doubt has been erased by their splendid work under fire.

Unlike the regular firemen, the auxiliaries suffered severely during their first ten weeks in action from the lack of food and proper clothing. No food rations had been provided for the auxiliaries engaged in operations at prolonged fires, and many had to go foodless for an entire day; even drinking water was scarce when fire fighting operations were being performed under aerial bombardment.

Each auxiliary fireman is provided with but one uniform. No change is therefore available. And working in wet clothing is all too common.

Despite these handicaps, the Auxiliary Fire Service is truly proving a first line of defense against enemy attacks, and is bringing glory without end to the fire service.

Credit for the accomplishments of the auxiliaries must also be given to the regular fire force, which trained them, and which is doing yeoman service, as was expected. At many fires, the auxiliaries outnumber the regulars ten to one. Three hundred thousand of the auxiliaries are now in service protecting Great Britain.

Incidentally, when war emergency plans are being formulated by cities of this country, provision should be made for feeding and clothing the auxiliaries when in action.

The Aerial Ladder Proves Itself British Fire Service officials are high in praise of the work done by aerial ladders. So many fires from incendiary bombs start at the tops of buildings, that quick ladder work is vital. In meeting this requirement, the power-operated metal ladders have proven indispensable. Now it is suggested that in the larger cities in that country there be one aerial ladder for each pumper.

American fire departments might give a little thought to the subject of handling upper floor fires in high buildings when roof tanks and standpipe systems are put out of service by aerial attack. These two units would be made inoperative instantly by a high explosive bomb. More, and longer, aerials may prove the answer to the problem.

Fred. Sheppard

Sabotage Fires, a National Problem

By THOMAS P. BROPHY
Chief Fire Marshal, New York City

AT THIS time when the law enforcement agencies of the nation, states and cities are actively engaged in a country wide program of national preparedness—an action which will be distasteful to some foreign powers—we know from past experience and particularly in the light of some recent events in Europe, that numerous alien agents and their sympathizers within our borders will do everything that is humanly possible to obstruct and to discourage our preparedness for national defense. These enemy agents and their sympathizers will strike not only to destroy our defense measures and to cripple our industries, but they will not hesitate to destroy human life itself in order to create a reign of terror and to stampede us into a state of national hysteria as the first step to breaking our national morale.

Many Alien Agents in U. S.

Of course, you realize that it is impossible in the limited time that has been alloted to me to discuss such a comprehensive subject in the detail which so important a topic deserves. I have given long and careful thought to this subject for your discussion and consideration and I am convinced that it would be imprudent at this time to publicize the many ingenious methods employed by saboteurs or to discuss the measures and means which I feel sure you all have in mind to cope with the hidden elements that most assuredly are in our midst, even though unidentified.

The war in Europe has unleashed a veritable horde of alien agents on this side of the Atlantic. More than 300 agents of foreign powers are properly registered and identified by the State Department, as required by Federal law. But the greatest number of foreign agents—and by far the most dangerous of the species—are those who are not registered. On the other hand, there is that well-known type of American citizen who constantly is flaunting the fact that he is a citizen of the United States in order that he may be above suspicion.

Saboteurs will stop at nothing to carry out their vicious plans, and it is well always to remember that an act of sabotage generally is conceived and planned long in advance, and that it is seldom attempted without the most careful preparation of the most minute details. It is also well to remember that a saboteur is not necessarily an alien or a person who speaks with an accent or the fellow with the long

Thomas P. Brophy

hair who needs a shave. He may be a person who is respected in his community and one who holds a responsible position and carries his head high.

Arson Commonly Practiced

Arson is one of the most favored weapons of saboteurs, since fire offers the greatest vehicle of destruction. By resorting to it, the perpetrator feels that he has the best chance of avoiding detection.

Opportunities for sabotage are unlimited and because its practices are varied, this crime presents an unusually difficult problem for public authorities to solve. Incendiary time bombs frequently are employed. They are hidden where they will be least likely to be discovered, but where they will do the most damage.

A saboteur usually is a past master at his crime and is smart enough to resort to the use of delayed ignition so that he can be far from the scene at the time of the explosion or fire, thereby averting suspicion and making detection difficult. Chemicals which cause spontaneous ignition and other materials which have highly explosive properties, frequently are used in this type of destruction.

Of course, you gentlemen are not waiting for me to tell you that saboteurs strike at vital defense industries such as shipping, munitions plants, airplane factories, power plants, fuel depots, and army and navy stores. In the various defense industries such as munitions factories, chemical plants and fuel depots, the use of the incendiary and explosive time bomb is most likely to be employed. Such was the case at the time of the Black Tom explosion in New York Harbor during the World War. In airplane factories, machine shops and other important manufacturing industries, fires have been set by tampering with electric power and equipment.

Fires in Holds of Ships

During the World War, quite a number of fires were started in the holds of sugar-laden ships and other vessels carrying munitions. The evidence of incendiarism was plainly visible by the fact that several separate and distinct fires were set in various parts of the cargo. Other ship fires occurred through the concealment of chemicals and saturated combustible materials in the cargo which later ignited by chemical reaction or spontaneous ignition. From the many investigations I made during the World War I know the havoc, destruction and terror that can be caused by sabotage fires.

Since the principal purpose of sabotage is to render impotent the national defenses of a nation, it therefore is imperative that constant vigilance be kept in the interest of prevention.

All of us should be mindful, all of the time, that the most careful physical precautions carried out with the greatest precision are of no avail unless the human element is covered scrupulously.

What I want to convey is that it is useless to build fences, guard gates, install fire detection and burglary alarms, fire extinguishers, etc., if there is within the premises those human elements tinged with foreign sympa-

Paper read at the convention of International Association of Chiefs of Police, at Milwaukee, Wis.

thies. To that end, sabotage cannot successfully be prevented unless and until a thorough check-up of the pedigree of all employees is made. I would strongly urge universal fingerprinting. The person with the clear conscience who is working in a large plant will not object to it. Those who may have been born abroad, or who were born here and still have relations on the other side, should be made known to their employers and to the public authorities. Large public utilities corporations in many of the big cities of our country have established a revised and more detailed card system of identification than heretofore—some of them issuing to foreign-born employees a card of one color and a card of a different color for native born. This may be a hardship on some well-meaning naturalized citizens but this is not the time nor the occasion to quibble over sentiment. Our national security is being threatened.

Sabotage by fire is only one of the possibilities of such a threat. It is no time for soft words and music. There is too much at stake. God forbid that we may ever have to engage in combat, but there is no harm that can come to us by being thoroughly prepared for defense.

Guards Are Necessary

Trained guards should be placed in all plants that are manufacturing anything that might be useful in national defense. Some elderly watchman, wearing a badge and carrying a club, conscientiously browsing about the place, is no protection against sabotage. Young, alert men should be engaged and trained, and if necessary planted among the employees to be constantly on the watch and to ferret out any plans of sabotage.

Shipments by rail or water should be checked and inspected by carefully trained men so that no infernal machine or inflammable substance or incendiary device can be concealed in the cargo.

Airports and hangars particularly should be well guarded. Although it is true that airport hangars as a rule are well protected from fire of accidental origin, they likewise offer a corresponding opportunity to the saboteur to set a fire and avoid detection by having it appear accidental. The "No Smoking" rule should be rigorously observed. The poor old cigarette has been more sinned against than sinning. I often wonder if it has not been innocent of many of the fires that have been laid at its doorstep by those who knew otherwise.

Of course, we all realize that the prevention of sabotage is much more important as part of our national defense than the subsequent apprehension of the saboteur. It is nevertheless vital in all cases where the element of sabotage is suspected, that an immediate and thorough investigation should be launched and nothing undone to track down the guilty. Too often there is too much indifference.

Investigation of Fires

In the investigation of fires caused by saboteurs, in addition to the routine methods used in determining the point of origin and ascertaining the identity of the person who discovered the fire, together with securing other pertinent information, investigators should look for other evidence, such as tampering with automatic sprinkler and standpipe systems, hose or other fire extinguishing appliances—any one of which might lead to the conclusion that the fire was set deliberately.

It is up to all of us public officers entrusted with the responsiblility of safeguarding the lives and property of our fellow citizens to be constantly on the alert and to cooperate with one another in an effort to wipe out this menace.

Warnings Against Mass Panic

At the convention of the New York State Association of Chiefs of Police, in New York City last July, Mayor LaGuardia of New York admonished the police chiefs to prepare against the mass panic technique which has been carried out so successfully in many European countries since the beginning of the present war. He stated that the time has come for every police department in the country to map out plans for any inspired panic that might be attempted here—and I am heartily in accord with his ideas.

At the same gathering, J. Edgar Hoover, whom we all know, urged the closest sort of cooperation between those representing local law enforcement and the F.B.I. in an effort to maintain our internal security. "The problem of coping with foreign agents, the saboteur and the subverts is one of national ramifications," Mr. Hoover said. "A seemingly innocent act in the Middle West might be the solution to wide-spread espionage or sabotage plots on the Atlantic or Pacific coasts. That is why this work must be highly coordinated and integrated."

In New York State, all police agencies are being coordinated for immediate mobilization in the event of any emergency. The plan calls for mobilization, upon Governor Lehman's declaration of such an emergency. Such a plan is likewise in existence among the municipal agencies in New York.

It will be pleasing to me to discuss privately with any member of this association, the methods employed by saboteurs who resort to fires and explosions. Please remember that the flag wavers and those who sing "God Bless America" the loudest might also be the most adroit saboteurs. Watch them! It is our sworn duty as public officers to do so.

First Aid Council for Maryland

Several Maryland volunteer fire departments have organized a Maryland State First Aid Council. The purpose is to spot all ambulances and rescue squads in the state so that they will function properly in emergencies, and to take the financial burden off the fire department budgets.

H. L. Leonard of Bladensburg, Md., heads the council. Mr. Leonard stressed the fact that the council will not come in conflict with volunteer fire departments. When successful, the council will actually enable the departments to use their fire apparatus budgets for fire apparatus only. Practically every volunteer fire department in the state with an ambulance is forced to use a good part of their apparatus funds in support of the ambulance. The community wants the ambulance, but will not provide donations to make it self-sustaining.

The First Aid Council will seek to have separate funds allocated to ambulance support. These funds would not be uniform to all companies having ambulances. Instead, they would be graded, according to the needs of each ambulance or squad. Unnecessary units would not be included in the budget. The ambulances and squads would not be taken away from the fire departments. They would remain in the stations and would continue to be operated by the volunteer fire company.

The two changes would be: A double budget for the company, one budget for the fire apparatus, and one budget for first aid work. All first aid equipment in the state would be spotted so that it could be called promptly in an emergency.

To join, a volunteer fire department must have either first aid equipment, or trained men. A fee of $10 is charged to each company enrolling. Annual dues will be determined by the size of the budget. Interested companies may contact the Council through Secretary Bernard Kiernan, Branchville, Md.

OTIS SMITH.

Prevention Education Gets Results

As evidence that Fire Prevention Week education has been more than successful, the St. Paul, Minn., Fire Department was able to show a decline in the per capita loss in the city until 1939 when it was $1.87. Twenty years ago, it was $5.61, while in the early days of the city, it was said to have been as high as $27.

The Work of the Fire Service During and Following Air Raids

By FRED SHEPPERD

NOW as to the organization of a fire department to take care of the multiplicity of fires in the event of an air raid.

Of course, the regular department force would be the nucleous around which all fire fighting activities must center. In addition to the regular

Fighting an Industrial Fire from Emergency Fire Boats

force, an auxiliary fire fighting force must be developed.

In Great Britain, the London auxiliary Fire Service is several times the size of the regular fire department. It is made up of volunteers who have been trained by the regular firemen in the use of apparatus assigned to them.

Auxiliary Fire Stations

The British Fire Department maintains its regular stations, but in addition to these, additional auxiliary locations have been provided at which a few auxiliary firemen are stationed with first aid fire appliances. The number of auxiliary "stations" is approximately twice the number of regular fire stations. The function of the auxiliaries is to handle small fires and to spot larger fires resulting from air raids.

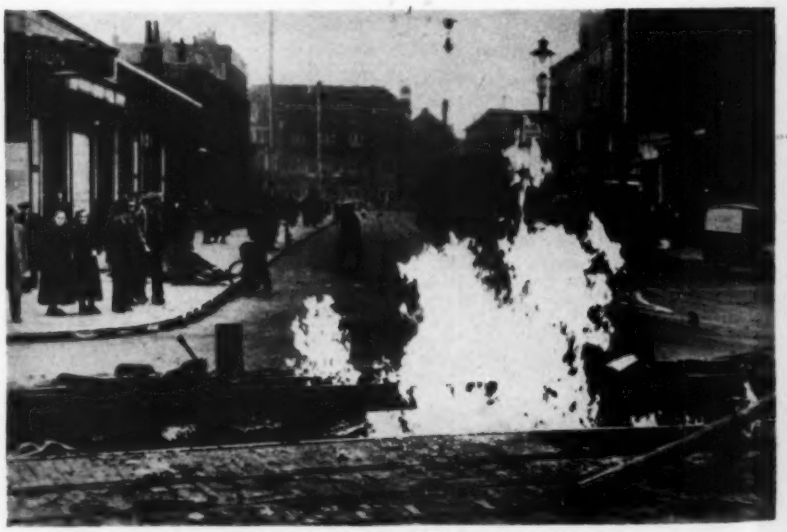
Trailer Pumps for War Use

Approximately 3,000 trailer pumps have been purchased by the British Government and by the various fire departments in that country for use in air raid protection. These small units are placed at piers and other locations where they can be brought into play long before the regular apparatus arrives. In addition to these, each fire hydrant in the high value district of London is fitted with a hundred foot length of hose, which remains connected at all times. Should an air raid occur, at which a number of fires are started, the volunteers would man these lines until the arrival of the regular companies. In most cases, they would be able to hold the fire, or possibly extinguish it before the regular fire department apparatus arrives.

In addition to the trailer pumps, many small portable pumps, front end pumps, and portable extinguishers are placed ready for immediate use. Each householder is requested to keep bath tubs and other containers filled with water for use in the event of fire. When streets are made impassable for motor driven apparatus by building wreckage and bomb craters, the value of the portable unit is much enhanced and evident.

Anticipating a large number of fires in a comparatively small area, the London Fire Department has put into service improvised canvas reservoirs. The purpose of these canvas reservoirs is to enable a large number of portable pumpers to take suction at one hydrant. Instead of being able to take but two lines off a hydrant, the hydrant discharges directly into the canvas reservoir, from which maybe a dozen of the small trailer pumps can take suction. Each of these trailer pumps is capable of delivering one satisfactory fire stream, so that the maximum effectiveness of each hydrant is attained.

It is not a problem so much of handling one large fire, as handling a great number of small fires. Thus spreading the supply of water over a large area through the agency of single lines of hose stretched from the portable pumpers is expected to prove



Gas Burning from an Open Main in a London Street, Following a German Air Raid

First part of article describing incendiary bombs appeared in October issue. Paper delivered before I. A. F. C. Convention at Spokane, Wash.

an effective weapon against fires from aerial bombs.

In the event that a large fire does occur, regular fire companies would be placed in operation on such fire until brought within control, at which time the auxiliaries would take up the burden, and the regular companies would return to their stations, or go to other locations where threatening fires are burning.

Signalling Systems

It is anticipated that in the event of an air raid of large proportions, the fire alarm systems would be put out of service; likewise the telephone system. The earthquake at Long Beach, Cal., a couple of years ago, not only put the fire alarm and telephone systems out of use, but also wrecked the local radio broadcasting station. The military successes of the Central Powers against Belgium, Holland and France were largely due to disorganization of the defense forces. The plan of attack was based upon this scheme.

In fire fighting, disorganization of the fire fighting force would be equally disastrous. Crippling of the fire alarm system, which is the nerve center of the fire department, would result in similar disorganization. Any fire alarm system which could still function, even though but partly effective, when the fire alarm headquarters were destroyed, would be most desirable during air raids.

A crippling of communication systems would increase the difficulties of the fire department manyfold. In order to take care of such a development, a system of fire department and police radio communications should be developed to enable the department to get word of fires. Furthermore, a messenger system might also be formulated and messengers stationed at points throughout the city to convey information to the fire fighting force. At Long Beach, Cal., several companies of Marines were posted along the streets and communicated fire alarms and other emergency information by word of mouth or by signals.

Speed Is Important

Air raid alarms are also essential for safety of life as well as to put the fire fighting force, both regular and volunteer, on guard. The most important factor of air raid alarm is speed. If the planes are spotted twenty miles away, it may be only four minutes before they are dropping bombs. Usually, they cannot be spotted at that great a distance, so that the time remaining for transmission of air raid alarms and the taking of emergency measures in connection therewith is lessened. Incidentally, auxiliary firemen, if stationed on streets, must have bomb-proof shelters in which to stay during bombing operations. Such shelters can only be expected to protect the men against flying shrapnel and splinters of bombs, for they could not practically be built of such strength as to withstand a direct hit.

Furthermore, watch posts should be maintained in tall buildings. These watch posts, or lookouts, should serve as a means of spotting fires which are caused by incendiary bombs.

Special Problems

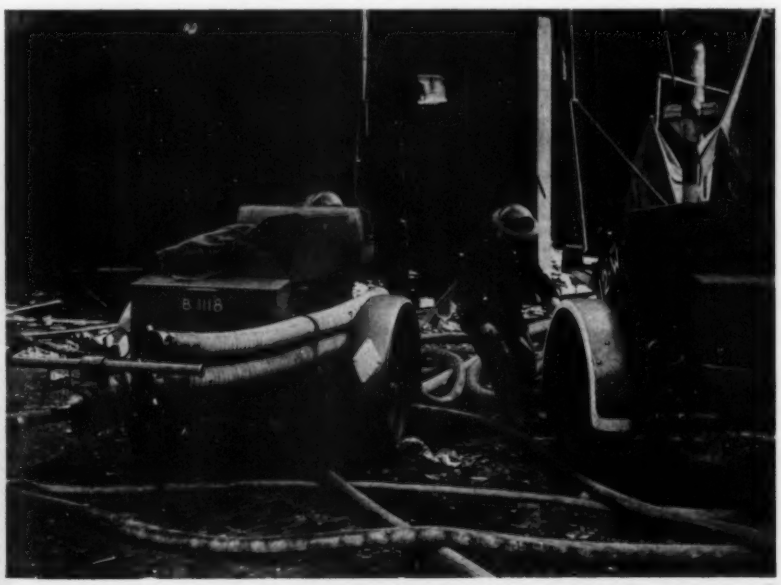
One of the real handicaps to efficient fire fighting operations during an air raid at night is the necessity for black-out. If a building is hit, and fire started, the light therefrom serves as a target for additional bombs dropped by planes. Thus, the fire department is placed in a position where it is exposed to concentrated fire. In addition, the darkening of the streets

Fireman at the Fire Brigade Headquarters in Full Gear, Including Breathing Apparatus, Undergoing a Test

makes it difficult for motor apparatus to respond promptly to alarms without using headlights, and all lights are taboo during air raids.

Protection of docks along the seaboard constitutes a major problem for the fire fighters. Docks are nominally considered military objectives, and when an attack is made on them, a number may be fired at the same time. Here is where the small portable unit is effective. It is right on the scene of the fire, and can take suction from below to operate promptly.

One of the difficult jobs the fire service faces during air raids is the rescue of persons buried beneath debris. A building may collapse, and until the debris has been overhauled, there is no certainty that no one is trapped. It is in such work as this that the auxiliary firemen, with proper training, can be of great value. It has been suggested by one of the British authorities, where basements of buildings are fitted up as bomb-



Auxiliary Firemen at Work on the Fires Following the Bombing of Large Stores in the London West End Area

proof shelters for occupants of the building, that some means of signalling be installed so that in the event that the building is brought down by aerial bombs, those imprisoned can immediately signal for help. It is also suggested that in a similar situation, tools be provided for making escape by the imprisoned. An axe, saw and crowbar, or claw tool, would probably be considered suitable for this purpose.

Conclusion

The entire problem of protection against fires from air raids resolves itself down to locating and handling a large number of fires which initially are comparatively small. Any system which can effectively handle possibly fifty to one hundred times the number of fires normally handled at once by a fire department should serve satisfactorily in the event of an air raid. But it is not possible to divide the regular force of the department into such a large number of individual groups. The only alternative, therefore, is the organizing and training of a sufficient number of auxiliaries to reinforce the fire department. It is equally vital that sufficient and adequate apparatus be provided to these auxiliaries so that no fires need be permitted to spread through inattention. Then, an emergency signalling set-up must be provided so that in the event of regular means of communication being put out of commission, it will be possible for fire departments and their auxiliaries to receive prompt notification of fires.

In presenting the above information, it has been possible only to cover briefly the more important points; air raid protection and organization and training of auxiliary firemen constitute a subject which would require the pages of a good sized textbook to cover fully. It has been the purpose of the speaker to include only those points which are considered most essential, and to provide suggestions which may aid in developing a practical plan for use in the event that we are faced with war on our shores.

Need for Maintaining Strength of Fire Departments

Before concluding, I must strongly condemn the action of many of our prominent municipal officials during recent months in weakening the fire service by closing fire stations and abolishing positions, as well as failing to make replacements when firemen have left the service. If the Fire Service is to face the responsibility of protecting the homes and factories of this nation, it should be given the wholehearted support of its city officials. There are few fire departments which are today up to strength manually or mechanically.

Strong Fire Service Needed

Are our municipal officials going to wait until war is at our doorsteps before they recognize the dire need of a stronger fire service? Are they going to wait, in replacing obsolete apparatus, until the threat of devastating fires is right upon us, only to find that the manufacturing capacity of our fire apparatus plants is sufficient to take care of peacetime needs alone? Are they going to procrastinate until all skilled mechanics, capable of building fire apparatus, are engaged in other wartime activities? If all apparatus needed for replacement of obsolete machines in the fire service, were ordered today, the manufacturers could not turn them out in five years, even if they could get the workmen needed to man all the shop equipment they have. There is no more vital defense in time of war than the defense against fire, and yet our city officials seem prone to wait until war has been dropped on our doorsteps in the hope that they can get what they need in the way of fire protection at the moment they want it. If the Fire Chiefs do their part in requesting needed apparatus now, they will be freed of blame when fire apparatus builders run into the inevitable jam which must occur as soon as rush orders in number begin arriving from cities from coast to coast. One big fire caused either by aerial bombardment or sabotage will cost a city, directly or indirectly, far more than the expenditure needed to bring the fire department up to strength. If ever full rosters were needed in the fire service; if ever modern, dependable apparatus were required, it is now. It will be too late to modernize after the sky is clouded by enemy airplanes. No amount of frantic action, no last minute appropriations, no matter how big, can correct overnight the disastrous weakness of the fire service brought about by years of procrastination. If war is to reach our shores within a year, even now we would be late in starting to bring our fire departments up to full strength. Fervent hope will be found no more effective in strengthening the fire service than it will prove in keeping war away.

Fireman Killed When Ladder Breaks

Joseph Delallo, a fireman of Bellefonte, Pa., was killed during a ladder demonstration conducted before the members of the Pennsylvania State Firemens' Association, who were meeting at Lewistown, Pa., last month.

The sixty-five-foot, three-section extension ladder of aluminum construction was extended in a vertical position. Each side rail was held by four men at the bottom; and each tormentor was guided by two men.

Delallo was climbing the ladder and was well toward the top when the ladder buckled and fell to the pavement.

Ground ladders, when extended vertically in a "church raise," are always supported with the guy ropes from the top before men are permitted to climb In this instance, guy ropes were not used, and the ladder failed under the strain to which it was subjected by the fireman ascending it.

A committee of the association was directed to notify the manufacturers that the failure was not due to defect in the ladder, but rather to the improper use of it.

Forest Fire Truck to Handle Fire Hazards on Cape Cod

This truck is capable of traveling through woods and flattening trees up to eight inches in diameter. It has a capacity of 1,000 gallons of water, and, used at high pressure, this will last over an hour working continuously from the deck. It is capable of traveling along the fire line as fast as a man can walk.

Boston Starts Disaster Relief Program

By WILLIAM ARTHUR REILLY
Fire Commissioner, Boston, Mass.

THE volunteer fireman is coming back in Boston.

Information from England has indicated that where at one time there were only 20,000 firemen in all of England, today there are over 18,000 firemen in London alone. Boston's answer to that choice morsel was "What are we waiting for?"

William Arthur Reilly

The entire list of eligibles for appointment to the Fire Department was obtained from the Civil Service Commission and invitations were sent to all the names on the list asking for enrollment in a civilian auxiliary fire fighting force for the city of Boston.

Large Volunteer Force

A total of 450 volunteers were thus secured and they were given the same training that is given to regular firemen upon their entrance into the regular paid fire department. Sixty hours of drill time, two hours an evening during the months of July and August, were completed and special certificates were awarded to the group.

Four separate drill schools were established, and both day and evening classes were conducted by the Drillmaster, Captain Francis A. Nicholson, assisted by Captain John J. Smith, Captain James A. Kennedy, Captain Michael G. Foley and Lieutenant Augustus Beaupre.

Spare apparatus was located in various suburban fire houses and the members of the auxiliary department were assigned to fire stations nearest their homes or their places of work, whichever was more convenient. The members of the auxiliary force report once every two weeks for a drill in their stations, and they are ready to man spare apparatus under the direction of one of the regular officers of the department in case of any emergency that may arise either in peace time or war time.

Ready for Emergencies

If the New England hurricane is repeated, or if the St. Valentine's Day snowstorm of this year is repeated, then by calling the off platoon and the auxiliary force, the number of privates available for work will be increased to triple the normal strength. By reducing the number of pieces responding to alarms, the number of calls which the department will be able to answer will likewise be increased.

When the new Civil Service list is published, the same training course will be established for those on the new list who have not already volunteered from the old list. In this way before the spring, the number of men between the ages of twenty-one and thirty-five available for active fire duty on call, will be still further enlarged.

Sparks' Badges Recalled

All sparks badges are concelled as of January 1, 1940, and any spark wishing to get a fire line pass must join the auxiliary force. Some welcome the opportunity because they feel it will help them in taking the examination for the Fire Department, and those who are high on the eligible Civil Service list naturally are willing to take their training before being appointed, wherever convenient.

Already the first fifty on the eligible list have been permanently appointed to the department to fill vacancies. Sparks who are not candidates for a job in the Fire Department, have no objection to taking a training course because most of them are able to do the work anyway and those who are older than thirty-five, come under the second class, which is now described.

Chief Samuel J. Pope

A second class of civilians for our auxiliary fire force has also been organized. This covers men beyond the draft age. They are not obliged to do any strenuous work, a modified drill program having been prepared for them. However, they are being trained during the winter months at convenient hours, in the elements of fire fighting; the laying of hose lines; the use of various types of extinguishers; first aid work; and the location and use of various fire fighting equipment and resources.

Letters Bring Response

A response of over 300 men of the city came from letters sent to public school teachers, to legion, and to veterans' posts, to local planning committees, and other civic and fraternal organizations. These men will be qualified to take care of their own premises in case a fire breaks out and an immediate response is not received to an alarm. Men of this

group will know what to do, when to do it, and how to do it. They will be urged to provide the proper facilities for preventing the spread of fire in their homes and stores, and they will have the proper kind of equipment to extinguish small fires and to prevent damage from spreading.

This perhaps might be classified as public education and effective fire prevention work. It provides an informed group of men in every community who have an idea what fire fighting is all about who can be contacted and organized in an emergency to take the place of younger men not available because of military service or other activity.

Industrial Fire Brigades

A third group in the civilian auxiliary fire system calls for the formation of fire brigades in various commercial and industrial plants. While certain types of industry already have fire fighting organizations among the employees, some of them are of such character that they could stand improvement in training and organization. A letter was sent to the major concerns of the city and the assistance of the Chamber of Commerce was requested in getting consent to permit officers of the Fire Department to go into various business concerns and suggest regulations that will help to prevent fire, the provision of extinguishing agents in convenient places, the conducting of fire drills, and in larger plants, the training of employees in the fundamentals of fire fighting on a regular program.

Still another step in this plan, made possible through the assistance of the public schools, was the formation of a teacher-councillor in every school building in the city. The teacher-councillor was given a simple instruction at an assembly at the School Committee Headquarters, by means of a motion picture and a series of talks. Each teacher in turn returned to his school building and appointed a student fire marshal in each class room to distribute and collect literature to have a definite place in the fire drills and to assist in fire prevention work, in the building and in the home.

More Training for Teachers

Many of the teachers joined the auxiliary fire department and thus received detailed training beyond the ordinary instruction available for teachers. A special manual for fire drill procedure was published in October, the first such manual available in the public schools of Boston. Teacher-councillors stimulated class room work in the various departments to develop essays, posters, etc., along the usual fire prevention line. This activity merely dovetails with these activities carried to every home. It soon became known that a special fire fighting organization was being developed in Boston to assist the regular fire department in the event that the need ever arises.

Boston Will Reap Benefits

By the time such a need as may be foreseen arises, no one knows how many informed fire fighters there may be among the civilian ranks. Properly organized, properly contacted, if only fifty per cent of the volunteers responded in an emergency, Boston will be a lot better off than it would be if this activity had not taken place.

Signal systems are being worked out with the assistance of amateur radio stations. If the fire alarm system breaks down, and communications are cut off in Boston, "ham" radio operators in surrounding cities are being gathered together so that by a prearranged system, communications can be established. Anyone familiar with radio knows that for short wave broadcasting, it is better to get messages from outside of the city oftentimes than it is from within the city limits itself, so that the outside towns and communities, may provide a service even greater than that rendered during the great hurricane of two years ago.

Ties In with Defense Program

This program is not divorced from the local defense program because the Fire Commissioner has been designated by the Mayor, as Chief of Staff of the local defense organization, so that transportation committees that are organized to function in case of evacuation of crippled children, aged or infirm persons, know what fire defense activities are being undertaken.

Perhaps this system may never be put into force, but it certainly provides an excellent opportunity for the fire department to point out the value of life and property and the need for its protection, to masses of people who were never before interested.

Visualize your local fire station with its ordinary complement of men. Then picture it as a center for prearranged activities in case of an emergency with 100 men reporting to the fire station trained in fire fighting and the ordinary first aid work required in an emergency.

Of fifty fire stations in the city of Boston, only 5,000 men are necessary to accomplish this fact, and that is our goal. Whether or not war ever comes, this system will be continued until such time as it is found to be of no value.

This may or may not be the first volunteer auxiliary fire force formed in any large city of the country on such a comprehensive scale, but it certainly indicates that Chief Samuel J. Pope, was on the job in suggesting this activity and supervising its organization.

Deputy Chief Dennis J. Coughlin was placed in charge of the civilian auxiliary force and under his direction the various activities are being conducted.

Incendiary Bombs

The fire department has given special attention to the problem of incendiary bombs having had representatives present at tests of explosives actually brought to this country from Europe. Consultation with National Guard officials worked out a plan whereby the Fire Department might be able to render assistance in the transportation of anti-aircraft guns to certain suburban communities in case of need from fire houses in those localities.

The Fire Department itself has been strengthened by the promotion of over thirty-seven officers and the appointment of fifty men during the past three months, and more promotions and appointments will be made,

Radio Interview Is Included in Kansas City, Kansas, Prevention Program

The highlight of the observance of National Fire Prevention Week in Kansas City, Kans., was a fifteen-minute radio interview on KCKN with Richard S. Vernor, Vice-President of the American Actuarial Bureau, conducted by Captain Moulton, right. This broadcast followed a day of intensive fire prevention activity during which these two men conducted inspections of schools and factories, and addressed many service club meetings.

because Mayor Maurice J. Tobin is one chief executive of a city who has paid some attention to the recommendations of the International Association of Fire Chiefs, as voted at their 1940 meeting.

125-Foot Aerial

When the International Association of fire chiefs visits Boston in 1940, they will see the first 125-foot aerial in the United States of America which will have been delivered by that time, another new piece, a quintuple combination made in Massachusetts, and a fire department that is on its toes in a city that is fire conscious and fire prevention minded to a degree greater than ever before in its history.

The national recognition which has come to Boston in the last three years for its fire prevention work has done much to get the cooperation of the people and the city authorities in helping to solve Fire Department problems. As in most cities, the fire department has been neglected in some of its physical aspects, but Mayor Tobin has done as much as possible to relieve the crushing burden of taxes and at the same time provide Boston with a new fire station, new pieces of apparatus, new firemen, and new officers, whenever vacancies occurred.

Radio for Chiefs' Cars

Every Chief in the department has a new car; the radio system in the department is being brought up-to-date in accordance with new licenses granted by the Federal Communications Commission for two-way transmission, of alarms and messages to Chiefs' cars. Old apparatus, not old enough to be discarded, has been modernized as far as possible and made available for the civilian auxiliary force.

Public Witnesses Work

Public exhibitions of ladder and rescue work have attracted several hundred thousand persons to playgrounds during the past three years; the fire department is on the map in practically every municipal activity, and the officers of the fire department and the men themselves are "on the ball" watching for every development that comes along in the field of fire fighting and fire prevention.

The civilian auxiliary fire fighting force may or may not be a great thing, but good or bad, we have gone overboard for it and we will keep it "for better or for worse, in sickness or in health, until death do us part."

FACILITIES FOR PROTECTING A SMALL WATERFRONT CITY

Organization of Crockett, Cal., Department —Force in Charge of Chief Lloyd C. Edwards

THE Crockett, Cal., Fire Department serves a community of 6,000 people which is situated on a branch of the San Francisco Bay. The topography of this community is very hilly. Most of the buildings are of a wood frame construction, and practically all of the mercantile district is closely built up of two and three-story wood frames. The water supply pressure ranges from 145 pounds to forty pounds depending upon the elevation. The water flow varies from 300 to 6,000 gallons per minute depending upon the location. The lower pressures and flows are in sparsely built up residential districts.

Chief Lloyd C. Edwards

The fire alarm system consists of a three-fold Gamewell system having thirty-three boxes. The signal is sounded on gongs at the fire stations and also on a large steam whistle.

The Fire Department personnel consists of the Chief, two Assistant Chiefs, three Captains, and twenty-one firemen, who are devided into three companies. There are two fire stations. An Assistant Chief and seven firemen live at the Headquarters. All men are on the call basis.

Chief Lloyd C. Edwards joined the department in 1908 and has been Chief since 1922. He has state teachers' credentials, and for the last two years has conducted a fire school under the state plan for firemen training.

Apparatus in Department

The apparatus consists of a 600-gpm pump and hose wagon, a 500 gpm triple combination truck, a combination tank and hose wagon, a combination tank and battery wagon, a tank wagon, and a combination tank, squad, hose, and battery wagon. This latter truck was designed by and built under the supervision of Chief Edwards. It was placed in service last December and has been used with very satisfactory results. The equipment carried on this truck includes a 500-gallon water tank, a 200 gpm pump, 800 feet of three-inch hose, 600 feet of 2½-inch hose, 200 feet of ¾-inch booster line, and a 600 gpm portable Morse turret, two extension ladders, two roof ladders, one inside folding ladder, and many other pieces of special lighting, life-saving and first aid equipment, and fire fighting tools. The operating panel for the pumps is placed at the rear of the truck and consists of the clutch and pump shift levers, throttle, suction gauge, discharge gauge, water tank level

(*Continued on page* 575)

Part of the Crockett Department Showing Units 1, 2, 4 and 5 in Front of Headquarters.

Radio Proves an Indispensable Department Asset

EVERY year, in increasing numbers, Fire Departments throughout the country are awakening to the advantages that are available in routing and dispatching trucks on various duties, through the use of the radio. As a result, an ever increasing number of the departments are installing either one-way or two-way sets on the apparatus. In order to determine the extent of the installation of radios by the various departments, a survey was made by FIRE ENGINEERING among a representative group of Fire Departments. In the pages following are outlined the various opinions on the use of the radio of those reporting. Therein may be found many useful suggestions for increasing the efficiency of the department as a whole.

Richmond, Va.
W. H. Joynes, Chief

The Chief, Assistant Chief and the Battalion Chiefs all have one way sets installed in their cars. It is very beneficial to our Chiefs. They may be between stations at the time an alarm is sent and in this way save a lot of time. The only drawback to the radio is that we are only called on box alarms, we do not get calls for stills or other business calls. That would be beneficial to the Battalion Chiefs in their work. Possibly the radio could not be considered indispensable, but it goes a long way to adding to the efficiency of the department.

Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. The police have charge of the radios installed in our cars and they use various standard makes.

Akron, Ohio
C. E. Harris, Chief

We have one-way sets installed in five of the department cars. We have found these radios beneficial in every way.

Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. We use a Motorola in this department.

Irvington, N. J.
J. Thompson, Jr., Chief Engineer

We use one-way sets in the Chief Engineer's car, the Deputy Chief's car, and the Emergency Squad cars. We have found the radio very beneficial while enroute or at fires, or other emergencies. Headquarters is in constant contact with the Chief's, officer's and squad cars. The radios are an indispensable asset to efficient fire fighting.

Our radio is operated in connection with the police radio. We rent service from the adjoining city of Newark, N. J. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. We use Western Electric receivers.

St. Louis, Mo.
Wm. Hoffschwelle, Chief

Eleven District Chiefs' cars, the Master Mechanic's car, and six reserve cars all have one way radios installed inside. The Chief and the Deputy Chief have the two-way radios installed in their cars. There are two one way radios in reserve. We have found the radio beneficial. All cars equipped with radios are in constant communication with the radio operator. The radio facilitates the summoning additional companies to the fires and eliminates men having to hunt a telephone. The Chief can notify companies to come to the fire at the most strategic points. I believe that the radio is an indispensable asset to efficient fire fighting.

Our radio is operated in connection with the police radio. There is a qualified operated on hand at Police Headquarters twenty-four hours a day. The one way sets are Arvin car radios and the two-way sets are police cruiser Motorola radios.

Mount Vernon, N. Y.
John Gibson, Chief

We use a one-way radio in the Chief's car only. We have found it beneficial because the Chief can receive messages which are important, when not in his quarters. All Chiefs' cars should be equipped with two-way radios. Our radio is operated in connection with the police radio by tying the telephone line from our telephone switchboard to the switchboard of the Police Department. We use a Western Electric receiver.

Niagara Falls, N. Y.
J. H. O'Neill, Chief

We use one two-way radio in the Chief's car. With a two-way radio, the Chief is always in communication with the radio station. I believe that the radio is an indispensable asset to efficient fire fighting. Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. We use an American-Bosch set.

Wilmington, N. C.
J. L. Croom, Chief

We use a one-way radio in the Chief's car only. I can keep in contact with Fire Headquarters when I am away from the station: also I can be notified of any fire alarm or other emergency. Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters at all times. We use a Western Electric radio.

Fargo, N. D.
F. L. Campion, Chief

Six cars are equipped with Motorola police receivers. We have found the radio beneficial in that at different times a second fire call has been answered from the location of the first fire call giving quicker and better response. We believe it to be an indispensable asset to efficient fire fighting.

Our radio is operated in connection with the police radio. There is a qualified operator on hand twenty-four hours a day. We use a Collins transmitter.

Alamada, Cal.
T. M. Lane, Chief

Two Chiefs' cars are equipped with two-way radios. The radio makes possible close contact with Fire and Police Departments insuring close cooperation in all emergencies. I do believe that the radio is an indispensable asset to efficient fire fighting.

Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. Our sets were built by the city radio technician.

Durham, N. C.
F. W. Bennett, Chief

We have one car equipped with a two-way set. We have found it very beneficial because Fire Headquarters can keep in touch with the Chief Officer. I believe that the radio is an indispensable asset to efficient fire fighting.

Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. We use R. C. A. receivers for the cars and a Lint transmitter. We use an American Bosch set for communication with Raleigh, N. C.

Knoxville, Tenn.
C. M. Johnson, Chief

Three Chiefs' cars and the Department Instructor's car, making four cars in all, are equipped with one-way radios. By means of these sets, the chief officers of the Fire Department, regardless of where they may be, can be promptly notified of fires and other emergencies while in their automobiles. Also, while at fires, they can be notified quickly of other alarms. Radio service in the Fire Department has greatly increased the efficiency.

Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Head-

quarters twenty-four hours a day. Our cars are equipped with Philco Radios.

Kalamazoo, Mich.
J. F. Van Atta, Chief

We have two cars equipped with two-way radios. We have found them beneficial in calling for more apparatus; in striking off the fire; in calling additional men to a fire; and in sending apparatus on a "still." We have found the radio to be an indispensable asset to efficient fire fighting.

Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. The radios were built by the Police Department.

Harrisburg, Pa.
E. W. Swartz, Chief

The Fire Chief's car and one Assistant Chief's car are equipped with one-way sets at the present time. We expect to have a third set installed in the other Assistant Chief's car after July. Through the use of the radio, we are in constant contact with headquarters while driving through the city and its suburbs. We receive all fire calls immediately.

We receive signals from Station WQOD which is operated by the Police Department. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. All of our equipment is made by the Radio Engineering Laboratories Corporation, Long Island City.

Revere, Mass.
T. J. McCarrick, Chief

We use two-way radios in our department. The Chief's car is equipped with a two-way radio, and all stations are fitted with one-way radios. We have found that the radio enables us to make speedy and accurate contacts. Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. We are using a Westinghouse receiver installed by the Gamewell Company.

Nashville, Tenn.
J. A. Scruggs, Chief

Four cars, including the Chief's, the Assistant Chief's, and Battalion Chief's, are equipped with two-way sets. Through the use of these radios, our cars are able to call for assistance without returning to the box, or they can call back in service from locations of fire calls. From a Fire Department standpoint, we find this service highly satisfactory. Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. We are using Western Electric radios.

Norfolk, Va.
E. J. Cannon, Chief

The Chief's and Deputy Chief's cars are equipped with one-way radios. We have found the radio beneficial while out of quarters in being able to answer alarms or any other emergency requirements. I believe that the radio is an indispensable asset to efficient fire fighting especially if a two-way system is installed. Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. We use General Electric equipment.

Kenosha, Wis.
W. J. Brady, Chief

We use both one and two-way radios in our department. The Rescue Squad is equipped with a two-way set and the Chief's car is equipped with a one-way radio. We have found the radio beneficial in summoning additional help such as men, equipment, doctors, and ambulance; in correcting mistakes in addresses; and in answering second calls while at one fire.

Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. The radios we use were built by the radio technician in the Police Department.

Bay City, Mich.
H. C. Crumb, Chief

We use a two-way radio in the Chief's car only. The radio is a great aid to the Fire Department, because at night, after places are closed there is no way to call an ambulance or doctor; the radio in this department has been used many times in this manner. On several occasions, I have dispatched fire apparatus by radio, working through the police radio which calls the Fire Department. I believe that within a short time all fire apparatus will be dispatched by radio.

Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. We use an American-Bosch radio.

Jackson, Miss.
L. F. McDonald, Chief

The Chief's car and all equipment are equipped with one way radios. There are nine pieces in all. The radio has been found to be beneficial to this department in keeping the equipment in service at all times ready to answer emergencies. Without the radio, equipment would be out of service many times. I believe that the radio is an indispensable asset to efficient fire fighting.

Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. The radios were installed by the Gamewell Company.

Grand Rapids, Mich.
F. P. Higgins, Chief and Fire Marshal

We have two-way sets installed in five of the Chief's cars. We have found them beneficial as a means of direct contact with the department and with each other; and it is not necessary to locate 'phones at night, in remote places or when the lines are down. These radios would be sorely missed if taken from us.

Our radio is operated in connection fied operator on hand at Police Headwith the police radio. There is a qualiquarters twenty-four hours a day. We use Link receivers and composite transmitters.

Kansas City, Mo.
T. J. Hardwick, Chief

This department has six one way units and eight two-way units. The radio creates more efficiency in every respect in sending and receiving fire alarms. I believe that the radio is an indispensable asset to efficient fire fighting.

Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. We use American-Bosch and Motorola radios.

Beverly Hills, Cal.
L. B. Canfield, Chief

There are two cars in the Fire Department equipped with two-way radios. There are twenty two-way radio cars in the Police Department that are all available to the Fire Department. We have found the radio beneficial in keeping the chief officers in touch with headquarters at all times. It also expedites the handling of Inter-Departmental communications at times of fire. Although one could not consider the radio indispensable, it is definitely an asset. Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters at all times. The automotive units are R.C.A. sets, and the transmission station was built by the city from standard equipment.

Dallas, Tex.
L. M. Funk, Chief

We have one-way radios at the present time, but we will have some two-way sets by August 1940. We have forty-eight cars equipped with radio. All pumpers, trucks, District Chiefs' cars, Inspectors, Fire Marshal, Investigators, Chief, Deputy Chiefs and all signal cars will be equipped with a radio. The radios are very beneficial in directing and routing companies, in reporting in service much earlier, in eliminating long runs by cover up companies, in dispatching companies from one fire to another; in receiving alarms while enroute to one fire; and for many other reasons. I believe that radio is an indispensable asset to efficient fire fighting.

Our radio is operated in connection with the police radio. There are third class operators in the department. There is a qualied operator on hand at Police Headquarters twenty-four hours a day. We use Philco and Motorola receivers and equipment and some that are built by the Department.

New Bedford, Mass.
Edward F. Dahill, Chief

The Chief's car is equipped with a one-way radio. I have found it beneficial in receiving alarms while on the road. I believe that it is an indispensable asset to efficient fire fighting.

Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. We use a Motorola receiver.

(To be continued)

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

EXCESSIVE FIRE LOSSES CAUSED BY DELAYED ALARMS

TIME flies!

You have heard that statement before. Even though it does not express a new thought, it is not one bit of less importance.

Any member of a fire department can cite story after story of damage done or even lives lost, because some one disregarded such a simple fact.

Time is important in fighting fires. All fires are small at the start. As to what the fire department will find when it arrives depends on how much time has flown by, from the time the fire started until the fire was reported.

The delay in reporting a fire can be due to excitement of individuals, lack of equipment, or the belief that the fire can be extinguished without the help of the fire department.

In this round table discussion, Chiefs have related incidents of large losses because of delayed alarms.

The problem in full appears in the box on this page. In the box on the following page is the question that will be discussed in the coming issue.

Discussion of the Question

Edw. T. Rose, Chief, Wheeling, W. Va.: On February 15, 1937, we had a fire in the laundry of the Home of the Good Shepherd on Edginton Lane in our city. The building was a three-story brick building and at the time of the fire, there was very little water in the vicinity. However, we now have a twelve-inch main very near this same laundry.

The fire was discovered by some of the inmates of the home. They tried to extinguish the fire without success after fighting it for at least fifteen inutes. Then they called their plant engineer who lived approximately 200 yards from the plant. He in turn called the fire department. By that time the fire had reached gigantic proportions. All told, we had 6,025 feet of hose in use, but only had two lines on the fire.

If this alarm had been given to the fire department upon discovery of the fire, I am sure the loss would not have been more than $5,000. As it was, it reached $100,000.

Richard Widmann, Chief, Madison, Wis.: On May 20, 1939, we had a fire in a wholesale hardware and supply company. There was a delay of approximately fifteen minutes due to the failure to operate the old type, weight interfering box. I am happy to say that this type of box is being eliminated as rapidly as possible by the use of non-interfering succession type boxes.

George W. Hanen, Chief, New Albany, Ind.: I have had one fire since my appointment as Chief, which was a delayed alarm.

On February 18, 1939, we had a fire in the Conrad Kammerer Glue factory. The $125,000 building and contents were destroyed.

On checking up, we found that the fire had been discovered at 12:10 p.m. Our records showed that the alarm had been received by the fire department at 12:29, a lapse of nineteen minutes which is a good start for any fire.

When arriving at the scene the smoke was so dense that we could not get near the building. Had we been called when the fire was first discovered, we might have reduced this loss.

Upon investigation, I found that the employees had tried to put out the fire, afraid the bosses would fire them for allowing it to start.

I think employers should impress upon their employees that the proper thing to do is to call the fire department at the first sign of a fire.

We all know that it is the first few minutes that determine the extent of the fire. The public should be educated to the fact that the fire department above all must be there on time.

M. G. Bennett, Chief, Orlando, Fla.: About four years ago, we had a $100,000 loss in a frame warehouse due to a delayed alarm. It occurred about 2:30 p.m. on Sunday. A railroad watchman was within 100 feet of the building and a lunch stand across the street was open. Everyone thought that someone else had turned in the alarm. We were delayed about twenty minutes.

Early this year we lost another frame warehouse due to a delayed alarm. A plumber repairing a pipe in a feed warehouse turned over a blow torch. Instead of turning in the alarm immediately, he tried to put the fire out himself. It got away from him. As a result, we were delayed about ten minutes. The loss was $25,000.

F. W. Donnelly, Chief, Lincoln, Neb.: On September 29 of this year, we had a delayed alarm in an old hotel building. The fire started in a pile of discarded rugs in the basement. The hotel is 100 feet by 150 feet, four stories high and of wood joist construction. Investigation after fire revealed the fact that an occupant smelled smoke at 10:29 p.m., and notified the management. Desk clerk and bell boys were sent to investigate. Investigation was made on upper floors. The Fire Department was called at 11 p.m. and it was requested to send down a couple of firemen and to come very quietly as they smelled smoke, but could not locate the fire. The fire department responded on regular alarm with three engines and two truck companies. Upon arrival, they found the entire building charged with heavy smoke. The building was ordered vacated and some 200 guests were escorted through the halls and stairs to the outside by firemen and hotel employees without mishap or hysteria. Second alarm companies arrived and fire was confined to basement. The loss was $5,000, due mostly to smoke. Because of this delay the results might have been even more disastrous.

S. E. Hanna, Chief, Coffeyville, Kans.: We have had no unnecessary delay in responding to fires or alarms. We use telephones for reporting fires and in that way receive the house number and in many cases even the nature of the fire. This method has proved quite satisfactory.

J. S. Stephenson, Chief, Miami Beach, Fla.: We have had no recent delayed alarms due to the fact that we have 25,800 telephones and 30,000 telephones in season, and we have a Gamewell fire alarm system. In addition, all our engines are equipped with radio receivers.

Emil A. Johnson, Chief, Boulder, Colo.: On January 24, 1928, a 50 x 140-foot, two-story brick business building, located on a corner in the center of the business district, burned to the ground. The first floor and basement

HERE IS THE PROBLEM

During recent years, have you had any outstanding case of delayed alarm resulting in a large fire or loss of life?

Briefly, what are the details, such as life or property loss, approximate period of delay, reason for delay, type of property damaged, etc.

were occupied by a dry goods store and the second floor was occupied by a dance hall. The loss to the building and contents was $104,000. The origin of the fire was undetermined. Two firemen were overcome by smoke.

A business man on his way to his hotel at midnight smelled smoke. He looked around the building but found no sign of fire. He went on to his hotel which was one block away. After reaching his room, he could not get the idea of the smoke out of his mind, so he returned and made a further investigation, but found no fire.

He returned to his hotel and spoke to the hotel clerk about the odor of smoke at this corner. The clerk suggested calling the fire department, but he said he did not want to call the department for fear it might be a false alarm.

The clerk then suggested calling the Fire Chief at his residence. When the Chief received the call, he sent the fire department to the building (the department received the call at 1:23 a.m.). The central fire station was but two blocks from this building.

When the fire department arrived, they found this building on fire in the basement and breaking out on the first floor. The smoke was coming out of the elevator shaft on the roof. We figure this alarm was delayed one hour and twenty-three minutes. There was even a fire alarm box on the corner within fifteen feet of this building.

Joseph L. Murphy, Chief, Kingston, N. Y.: On October 9, 1940, at 2:12 a.m., a life was lost in a fire at Kingston.

It was a delayed alarm due to delayed discovery of the fire.

The fire was in a two-story frame dwelling. A man and his wife were sleeping in the front room on the second floor. An old man was sleeping in the rear room on the same floor.

The fire was discovered by the wife. She was awakened by the reflection of light from the fire through the window. She called her husband. He opened the bedroom door with the intention of calling his father. As he opened the door, there was the inrush of smoke, hot gas and fire, which drove him back. He could hear his father call for help. He was unable to reach or even see him. The man and wife had to jump out of the front windows, leaving the father to get out the best he could. The wife was injured when she fell to the ground. The neighbors, who were aroused by the cries of the man and wife, sent in the fire call and attempted the rescue, but failed.

When the department arrived, the fire was coming out of the front and rear. Lines were laid, ladders raised, and the fire knocked down in ten minutes.

The father was found in the son's front bedroom behind a dresser, not burned by actual flames, but dead through suffocation.

The burning was complete throughout the interior including the contents. Exterior in rear was also damaged.

In the excitement, the man and wife jumped out of the window when they could have stepped out of the side window on to a porch roof.

The fire started on the first floor in the kitchen, and shows evidence of having been caused by electrical wiring, but the origin is still under investigation.

George E. Renken, Chief, Laredo, Tex.: Our records show three or four dwelling fires in our outlying residential districts completely burning to the ground in recent years, although we have been fortunate in not having loss of life in these particular cases.

Our biggest handicap is that we depend entirely upon the ordinary telephone system for the transmission of fire alarms. A person has had to run eight or nine blocks sometimes to the closest phone, causing an unnecessary delay. In five out of a hundred calls, we are sent to the wrong address by excited persons, a delay which has cost us the total loss of many frame dwellings.

P. E. DuPaul, Chief, Vancouver, Wash.: About a year ago, one of the local taxi drivers was taking a fare to his home about 1:30 in the morning. While on the way, he saw smoke and fire coming out of the lower windows of a residence. According to his story, he supposed an alarm had been turned in, so went on about a mile and let his passenger out and started back. On approaching this house again, someone yelled to call the fire department. The driver could find no phone available at this time of day so drove about a mile or more to the station and called us. By the time the apparatus arrived, the building was completely involved. Had a fire alarm box been handy, I am sure we could have been called in time to have saved the building.

H. W. Bryson, Chief, Wenatchee, Wash.: About three years ago, a fire occurred in the basement of a building located in the business area. This building was two stories high and was occupied by a hardware store on the first floor and a rooming house on the second.

The furnace exploded while one of the hardware employees was burning rubbish. A very large amount of rubbish had accumulated in the basement from the packing material such as paper; excelsior filled with grease, to prevent the hardware from rusting, had been piled near the furnace.

Robert Hoover, Chief, Kokomo, Ind.: To our best knowledge, we have never been confronted with this situation, nor has it ever occurred in our city, outside of being held up by a train for a few seconds, with the resulting fire loss being negligible. We have just recently overhauled our fire alarm system and installed a radio intercommunication system between all stations, permitting two-way conversation between headquarters and any station, thus facilitating the transmission of fire alarms tremendously.

C. L. Downing, Chief, Grand Junction, Colo.: On June 17, 1937, we had a fire in an old frame warehouse and small brick flour mill. The loss was $23,000 and was due to a delayed alarm of forty-five minutes. Everybody was too busy watching the fire to turn in the alarm. The alarm came in over the telephone.

Edward J. Green, Chief, Steubenville, Ohio: We have been delayed several times at railroad crossings, but without serious losses.

L. R. Morris, Chief, Ames, Ia.: A few years ago, we had three people lose their lives in a dwelling. They had no telephone and when the neighbors discovered the fire at 3:00 a.m., the mother had got out but died later from the burns. The two boys lost their lives in the fire.

We have had alarms delayed when the people were away from home at the time of the fire. When the fire was discovered, people thought the alarm had already been turned in. Sometimes it is necessary to go some distance to reach a phone and thus the fire gets a good start.

George E. Smithers, Chief, Fond Du Lac, Wis.: An oil burner had been installed in a local store and was being regulated. The man attending to the adjustment left about 6 p.m. and was to return later to see how it was operating.

An alarm was received at 7:05 p.m. Smoke was issuing from the building and seeping into adjoining store.

The building was a three-story brick with no fire stops. When the department had arrived, the fire had traveled in the walls mushrooming on two upper floors occupied by offices and one dwelling. The loss of approximately $85,000 covers total loss of place of origin and exposure losses. The total time was forty-three hours and thirty-five minutes. Approximately 3,000 feet of 2½-inch hose were used. It was necessary to have one 750-gallon pumper, one 1,000-gallon pumper, one 500-gallon pumper and one 1,500 gallon pumper from a neighboring city. I believe this fire was burning for at least forty-five minutes before the alarm was turned in.

C. A. Wolverton, Chief, Port Angeles, Wash.: Several years ago a watchman discovered a small fire in one of the two kilns of a cooperage plant here. He told a passerby in a car to phone the fire department. The watchman attempted to put out the fire with a small hose by opening the door which created a draft and increased the fire.

The alarm was turned in from a mill one mile away by the motorist who gave the information that the fire was at the spot where he was telephoning from, and not stating that it was the cooperage plant. The fire department responded with a small rig, with two men, thinking it was a shack fire. They in turn had to

HERE IS THE PROBLEM FOR THE NEXT ISSUE

Does the municipality purchase fire apparatus for your volunteer department?

If not, how are funds raised by the department for apparatus purchase?

What method of money raising have you found most effective?

turn in a general alarm calling all paid and volunteer men and a 1,000-gallon pumper as the fire had to be controlled by pumping water from the bay as there were no hydrants available. This delay caused the loss of two kilns with its contents. The loss was over $30,000, and the plant was never rebuilt.

If the watchman had gone to the office of the plant 200 feet away, and phoned the fire department that the cooperage plant was afire, this large loss could have been prevented and the plant still in operation.

W. O. Mathews, Chief, Bozeman, Mont.: Three years ago we had an outstanding case of delayed alarm resulting in the loss of life. The fire occurred in a two-story frame dwelling in the upstairs apartment at approximately 10 a.m. The mother had gone to the basement to wash clothes and left her two-year-old child in the bedroom upstairs in a crib.

The kitchen stove started the fire. When the mother discovered it, it was burning so that she couldn't get upstairs. She immediately went into hysterics and the neighborhood gathered around. Apparently, everyone was under the impression that the fire department had been called. But, because so much time had elapsed and the fire department had not arrived, a neighbor woman ran to her home and called us.

It is impossible to state exactly the number of minutes lost by this delayed alarm, but the time lost was long enough. The child was beyond help. The top floor was gutted, and the first floor was water damaged considerably.

This was a case where people failed to react calmly to a serious emergency.

Donald White, Chief, Florence, Ala.: The only alarm that we have had delayed in some time, occurred when the night watchman had gone to sleep and fire started in the back of a stove foundry which resulted in a big loss. The watchman had fixed his clock so that he could take a nap, but overslept. The fire burned from about 1 a.m. until 3:15 a.m. before the alarm was ever turned in. The night watchman's story was that he had tried to get the fire department but was unable to reach us. Passersby turned in the alarm both by telephone and street box. The watchman finally acknowledged that he had been asleep and had never turned in the alarm.

The explosion set fire to the pile of rubbish and the employees tried to extinguish it, using three one-quart extinguishers of carbon tetrachloride, and failed to send in the alarm until the fire had spread to other parts of the basement.

When the department arrived, the firemen were handicapped by the fumes from the liquid of these extinguishers. These, coupled with the heat and smoke, made it impossible to enter the basement immediately. The building was of such construction that permitted the fire to spread rapidly to the walls, finally involving the whole building. Had the alarm been sent in when the fire started, it is believed that it could have been confined to the basement.

Linwood J. Emery, Chief, Sanford, Me.: Delayed alarms with this department are very few and none have caused much, if any, serious losses either to life or property. As you probably know, the town of Sanford is comprised of two villages, Sanford and Springvale, Maine. Two separate and distinct fire departments are maintained, one in each village, and both work independent of the other. Separate alarm systems are operated, but both alarms are twined to each station to drop box, and on certain boxes, in either village, both departments respond. This is also true of second alarms from either village.

There is the best of cooperation in this setup and both departments work in each other's territory on stills without friction, moving out only if and when the other department arrives to take over.

L. B. Hill, Chief, Bessemer, Ala.: In 1928, on the morning of Christmas Eve, the First Methodist Church burned. The church was a stone building. The loss to the building and its contents was $150,000.

A resident within one block of the building awoke at 3:30 a.m., and saw smoke in the street and admitted that he could tell it was coming from the church. However, he did not send in an alarm because he thought the fire department had already been called. As there were no flames, the man returned to bed.

At 5:05 a.m. a motorcycle officer passing by, saw flames inside the church and sent in an alarm. With a delay of one hour and thirty-five minutes, the fire had gotten beyond control and the building was a total loss.

It seems to me that a little investigation instead of taking so much for granted would have held this damage to a minimum.

Frank Clark, Chief, Belvidere, Ill.: On May 30 at 9:20 p.m., we received an alarm from the Dean Milk Company. The buildings were of wood and had been built more than forty years ago. The fire started in the east end of the boiler room. Only one man was on duty and he did not see the fire until it had a good start. It was through the roof when we got there. The buildings all burned down. The loss was about $165,000. I think the alarm was about fifteen minutes late.

J. E. Travis, Chief, Salina, Kans.: There was a fire here at 3:10 one morning. No one noticed the fire until everything in the building was on fire and the roof falling in. The loss was $40,000. Needed: A good first class automatic alarm system to give the fire department a fighting chance.

O. B. Kinsman, Chief, Watertown, S. D.: We have had fires that have gotten quite a headway by the time the fire department was called. This is particularly true with a grain elevator and a flour mill fire which we had recently. However, it is understood that both of these fires burn very rapidly and can gain much of a start before the arrival of the fire department.

I would advise that all buildings of this type be protected with a sprinkler system. If this were the case, as soon as the fire broke out, the employees would be notified and could send the alarm into the fire department.

Firemen to Study Air Raid Conditions

Two Battalion Chiefs and a firemen from the New York City Fire Deepartment left New York recently to fly to London via the Clipper to study fire fighting in air raids.

These men are being assigned active service to obtain experience and information in fighting fires under aerial bombardment conditions. The men are expected to remain in the British capital for five or six months to study every possible aspect of fighting air raid fires. They are expected to report back from time to time to Fire Commissioner J. J. McElligott, and when sufficient information is compiled, they will return.

In their first report of the London methods, Battalion Chief Daniel Deasy wrote:

"I do not know of any words to express our gratification at a job so well done. Everything has been foreseen in such detail that there seems to be no excitement. We might have more excitement in New York at a little fire than they have at what they call a 200 pumper."

He reported that generally the effects of German air raids had been less than he expected.

These men will engage in actual fire fighting.

Mayor LaGuardia, Left, and Fire Commissioner J. J. McElligott, Right, Bid Farewell to the Three Firemen Just Before Their Takeoff for London

In the center are Fred G. J. Wedemeyer, Battalion Chief of the Marine Division; Daniel A. Deasy, Chief of the 17th Battalion, and Fireman George J. Scott.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Pump Priming

To the Editor:

Pumping water from draft with a centrifugal type pump, I have witnessed the following: The fire department takes the pumper to a body of water and primes the pump. The pump takes water and shows 100 pounds pressure on the gauge throwing a good fire stream and, after a short period of time, the pressure on the gauge gradually drops and eventually the pump has lost all the water. The pump can be primed the second time and will take the water, pump a stream at the same pressure and then gradually lose the water.

What is the cause of the pump's operating thus G. M.

Answer: The performance of the centrifugal pump, which loses suction, after it has been operating a while, would seem to indicate a loose connection in the suction line, either at the pump or between two sections of suction hose.

The suction may be comparatively tight when empty, but when it is charged with water being drawn up into the engine, the weight of this water is applied directly to the suction hose and its coupling. It may be sufficient to open up that coupling enough to permit a small amount of air to enter. Thus, when the pumper is put into operation, it may take suction at the start, but after operating a while, the gradual leakage of air into the suction line may cause the engine to lose suction.

Water Relay

To the Editor:

In our city we are laying plans for emergencies which might arise.

We have a source of water supply at each end of the city, each source being a creek. The distance from either creek is a mile. At one end of the city there is an eight per cent grade for 2,000 feet, easing off to a level. The elevation from the source is 190 feet. We plan to relay the water if the emergency did arise. We have one 1,250 gallon centrifugal pumper and two 750-gallon pumpers.

Is it practical to do this? If so, would you give me the proper set up, namely, the pumper at the source, the distance between the first and second pumpers and the pumper that will deliver the water to the fire? Is it best to use two lines of 2½-inch hose from the first to the second pumper? What would be the delivery in gallons at the fire, using the required pump pressure, 2½-inch hose and inch nozzle tip? J. L. M.

Answer: It would be possible to run a relay line a distance of a mile, and providing for a rise of 190 feet between the first and second pumpers.

The layout should be as follows:

The 1250-gallon per minute pumper should be placed at the source of supply and pump through two parallel lines of 2½-inch hose a distance of 2,800 feet: These two lines should feed one of the 750 gallon pumpers, which in turn would deliver water through 1400 feet of 2½-inch hose to the third pumper, also a 750 gallon pumper. This pumper would deliver water through 1100 feet of hose to a 1⅛-inch nozzle.

With this layout a nozzle pressure of about 48 pounds would be secured, and the discharge would be in the neighborhood of 260 gallons per minute.

Operation of Pumper

To the Editor:

I would be very grateful if you would answer and explain your answers to the following questions:

1. A 1,000-gallon pumper is working at 120 pounds, but is receiving 40 additional pounds from a hydrant, showing a total of 160 pounds on the discharge gauge. Is the pumper giving its rated capacity? More? Less?

2. If the above pumper is working at 160 pounds and is aided by 60 pounds from a hydrant, showing a total of 200 pounds on the discharge gauge, is the pumper delivering its rated capacity or less?

3. What is the formula for finding the discharge from a pumper when it is working below the manufacturer's rating? Example: A 1,000-gallon pumper operating at 120 pounds from draught. J. G. C.

Answer: If a 1,000 gallon pumper is working at 120 pounds (and is receiving forty pounds additional from the hydrant) it is still delivering water at its rated pressure. As to what the capacity is at this pressure, it cannot be said, due to the absence of figures on the layout and nozzle.

Answering Question 2, if a pumper is operating at 150 pounds pressure and this pressure is aided by 50 pounds from the hydrant, showing a total of 200 pounds on the discharge gate, the pumper is operating at a pressure above its rated pressure, but the capacity or discharge cannot be determined unless the layout is known.

There is no accurate formula for finding the discharge from a pumper when it is working below manufacturer's rating. An approximate result can be secured by use of the following rule:

To find the discharge from a pumper at other than rated capacity, multiply the rated capacity by the rated pressure and divide by the pressure at which the capacity is desired.

In the problem with the example you give, we will assume that the rated pressure of the 1,000 gallon pumper is 160 pounds.

The discharge at 120 pounds will then be:

1,000 × 160 ÷ 120, or 1,333 gallons per minute.

The only way the discharge of any particular pumper can be determined for pressures lower than rated pressure is to refer to a manufacturer's performance curve for the machine in question. This curve will show what discharge can be secured at each pressure at which the pump operates.

Delivery from Pump

To the Editor:

Is a rotary pump rated at 75 gallons per minute and powered by a "Model A" Ford engine, capable of drawing water through a 2-inch pipe 500 feet long with a 5-foot lift at the hydrant, and still deliver 75 gallons? If not, how much should this pump be able to draw? H. L. B.

Answer: A pumper could not draw 75 gallons of water per minute through a two-inch pipe line 500 feet long. At this flow the friction loss would amount to approximately 46 pounds, and as the perfect vacuum gives only 14.7 pounds per square inch, you will see that even a perfect vacuum at the pump end of the pipe line could not draw the water through the pipe line at the rate of 75 gallons per minute. With a perfect vacuum only 25 gallons per minute could be drawn through the line, to say nothing of the lift of 5 feet at the end. It is probable that under actual operating conditions, the pump could not draw more than 20 gallons per minute with the layout given.

Booster Pump Nozzle

To the Editor:

I am on a combination hose and booster type truck. The booster is just an ordinary pump connected to a Reo speed type motor. The capacity of the booster tank is 97.7 gallons. There is also 200 feet of ¾-inch rubber lined hose, equipped with a ½-inch tip. If I was to run my pump at 125 pounds pressure, what would my nozzle pressure be

and what would the gallons per minute be? T. J. O.

Answer: The formula employed is

$$N.P. = E.P. \div (1 + KL)$$

This formula is used for small lines of hose and with small diameter nozzles.

The value of K for ¾-inch hose and ½-inch nozzle is 3.

L, the number of fifty-foot lengths of hose in the line, is 200 ÷ 50, or 4.

Then $N.P. = 125 \div (1 + 3 \times 4)$

$= 125 \div 13$

$= 9.6$ pounds

Note that the formula employed differs somewhat from that used for larger size lines in that the figure "1" is used in place of "1.1," as given in the parenthesis. This form of the formula gives more accurate results than the use of 1.1 as found in the formula for 2½-inch lines and larger.

Thus, with this solution, we should have around 9.6 pounds at the nozzle when the engine pressure is 125.

Discharge is equal to

$$29.7 \times d \times d \times \sqrt{P}$$

$= 29.7 \times .5 \times .5 \times \sqrt{9.6}$

$= 23.02$ gallons per minute

BATTERIES IN PARALLEL FAIL TO FUNCTION PROPERLY

One Takes Over-Charge While Other is Undercharged

SPECIFICATION for motor fire apparatus, recently issued by a fire prevention organization recommends two batteries for each piece of motor fire apparatus—one battery to serve the siren where an electric siren is to be used and the other to supply current for the electric systems of the fire apparatus. With such an arrangement, the batteries would have to be charged in parallel from the generator.

As a matter of fact the battery companies, Willard, U.S.L., and Exide, have all advised that they will remove their guarantee from any battery if an attempt is made to charge in parallel. No two batteries have exactly the same internal resistance and as the battery is continued in use, the resistance changes. Any attempt to charge in parallel would mean that one battery would get practically all the charge and would probably burn up. They mean by this the charge rate in that particular battery would be extremely high and excessive heat would develop, causing a considerable shortening of life of the battery. The primary purpose would not be achieved as both batteries would not receive full charge, one being badly over-charged and the other undercharged. The only remedy they can offer is adequate capacity in one battery or the selection of two batteries in series, as for example two six-volt batteries to be used on a twelve-volt system.

Siren Is a Heavy Battery Drain

A good siren requires from seventy-five to 150 amperes to get it rolling and fifty to seventy-five amperes to keep it rolling.

And while this draught on the batteries may be considered high, there is no serious problem in providing necessary battery and generator capacities to handle it, or even greater demands.

While it would be impracticable to employ a generator big enough to meet the current demand of a very large and inefficient electric siren, a combination of proper battery capacity with suitable generator will solve the problem. The solution consists of providing large capacity batteries so that during the period of pumping, the output of the generator will be sufficient to replace the current consumed in using the siren en route to the fire.

At least one company installs two generators on apparatus like city service trucks, service aerials, and large aerials, where no pumping is involved. One of the these generators cuts in to charge at about 350 rpm of the engine and thus at an idle speed the battery is actually charging. The second generator cuts in at about 500 engine rpm and so at speeds above 500 engine rpm, both generators are charging. This method provides sufficient charge capacity to keep the batteries in proper condition. Generators of one company have a charge capacity of nearly 600 watts; batteries have a cranking capacity to crank the engine continuously for a period of nineteen minutes with an 190 HP engine and twenty-four minutes with an 240 hp engine, this at a temperature of 65° F.

False Protection

As a matter of fact, it is felt that a false sense of security is created. The operator will feel that he has an auxiliary battery and therefore he will pay little attention to either battery, and particularly in volunteer fire departments which, by the way, constitute the vast majority of fire departments in the United States. The apparatus generally does not receive any too good attention and with infrequent runs, the Fire Company is more apt to have battery trouble under the present set-up than where a single set of batteries is provided.

In an investigation of troubles with ignition system a few years ago by one manufacturer, in an effort to improve the reliability of apparatus, it found the percentage of failures in service of the magneto far exceeded failures of the battery system. Another factor was that practically all trucks today are equipped only with battery system and thus adequate magneto test facilities are no longer available in many cities. In one case, the closest magneto testing station to one large city is located at Buffalo, N.Y., 150 miles away. This holds true of all the cities in this territory, and would include places like Binghamton, Ithaca, Corning, etc.

As one prominent chief reported, if it had not been for the battery system there would have been many times when they would have failed to respond to a fire as magneto failures have occurred several times enroute to a fire and they found it necessary to switch to the battery and yet they had not a single battery ignition failure to report. Some chiefs still want magnetos on apparatus.

When the duplex jobs were built for Los Angeles, three different sets of magnetos were used before the apparatus left the factory, and it was necessary to make one replacement of magnetos before the acceptance test was finished at Los Angeles. These were Scintilla magnetos and are supposed to be just about the best available.

Chief Callahan Forms Disaster Plan

Chief Andrew T. Callahan, Harrison, N. J., Fire Department has been working to place into operation, a plan calling for mutual assistance in the event of a disastrous fire occurring in one or more of the large industrial plants in that city. There are over fourteen of these large industries in Harrison having fire brigades.

A conference has been held which was attended by the industrial Fire Chiefs. At this conference they were given a questionnaire which when answered gave the complete list of fire equipment in each of the plants. Future meetings are to be held at which time further details, such as calling system, and means of transportation of fire fighting equipment and manpower will be taken up. It is understood that the plan is to be used only for industrial plant fires.

The plan will not go into operation until outside aid from the neighboring municipalities have been exhausted, or should they have an unfortunate situation on their hands at the same time, and be unable to render any valuable assistance. It will be necessary for the Chief or the Deputy Chiefs of the Harrison Fire Department to give the command before the plan will operate.

A Correction

The article entitled "A Metal Which Burns," which appeared in the September, 1940 issue of FIRE ENGINEERING was prepared by G. Malcolm McNeil, Engineer, Associated Factory Mutual Fire Insurance Companies and was a reprint from Factory Mutual Record by courtesy of the Associated Factory Mutual Fire Insurance Companies.

Chief J. R. Roe Studies N. Y. C.

Chief J. Ray Roe, of the Abilene, Tex., Fire Department, is attending the New York Fire College, and running with a New York fire company to get first hand information on how the city's fire fighters do their stuff. He is high in his praise of the efficiency of the country's biggest fire department.

WHAT'S BURNING

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of October, 1940. These figures, compiled from the telegraphic reports, are based on estimates made at the time, and are subject to later investigations and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Month Ending October 31	Loss in Thousands of Dollars
Blanche, Ala.—Lumber company, damaged	210
Philadelphia, Pa.—Curiosity Shop, damaged	50
Birmingham, Ala.—Building Materials Company plant and garage, damaged	50
Terre Haute' Ind.—Main building of Commercial Solvent Co., damaged	65
Dallas, Ore.—Williamette Valley Lumber Co., mill	80
Fernwood, Pa.—Paper Canister Co., destroyed	125
Watertown, S. Dak.—Watertown Milling Co. mill, damaged	80
Mt. Pleasant, Mich.—Roosevelt Oil Co. refinery, damaged	75
Walnut, Miss.—Cotton gin and lumber mill, destroyed	50
Bakersville, N. C.—Bakersville-Bowman High School, destroyed	50
Grass Valley, Calif.—Nevada County Narrow Gauge Railroad Station and Golf Exchange packing shed, destroyed	50
Clayton, N. Y.—Two farm buildings, destroyed	50
Marion, Ohio—J. C. Penny Co., destroyed	130
Paulding, Ohio—Paulding Lumber Co. and Cincinnati and Northern Railway depot	60
Natrona, Pa.—Building housing drug store and apartments, destroyed	50
Waynesfield, Ohio—Waynesfield Block and Tile Co., destroyed	50
Monroeville, Ala.—Airport hanger, three planes, twenty trucks and three tractors	125
Studa, Pa.—Coal mine tipple	60
Council Bluffs, Iowa—Broadway Cleaners, damaged	50
Eureka, Calif.—Northern Redwood Lumber Co., damaged	80
Hudson Falls, N. Y.—Griffin Apartments, destroyed	50
Gouldsboro, Pa.—Two ice storage plants	50
Auburn, Me.—Hotel Whitehall, destroyed	60
Rockingham, N. C.—Business buildings, destroyed	50
Pottstown, Pa.—Dairy stables and garage	50
Lynchburg, Va.—Cattle barn, epileptic and feeble-minded colony, destroyed	50
Connellsville, Pa.—United Bretheren Church and auditorium, damaged	60
St. Johns, Que.—Parish church, dwelling, two barns, stable, garage, shed and an ice house, destroyed. St. Paul Church, damaged	135
Martinsville, Ind.—Tomato cannery, destroyed	1,200
Natomas, Calif.—Warehouse and 150 tons of hay	50
Norwalk, Ohio—Gallup-Ruffing Handle Co.	50
Columbus, Ohio—Billow-Firestone Co.	50
Green River, Wyo.—High School building, destroyed	150
Collegeville, Pa.—Business building damaged	60
Detroit, Mich.—Business building, damaged	145
Homer City, Pa.—Homer City Seed Mills, damaged	50
Avella, Pa.—Coal mine tipple, destroyed	50
Blytheville, Ark.—Bales of cotton, destroyed	750

H. G. Dodge Heads Underwriters' Office

Howard G. Dodge, has been appointed head of the Underwriters' Laboratories San Francisco Office, replacing Mr. Kenneth W. Keene who has turned in his resignation.

Dodge received his formal technical training at the California Institute of Technology, majoring in civil engineering. He joined the staff of Underwriters' Laboratories in 1929 at Los Angeles as an inspector in the label service department.

BLAZE IN BALTIMORE PLANT RESULTS IN 15-ALARM BLAZE

Fire Sweeps Through Large Piles of Cork and Endangers Plant of Crown Cork and Seal Co.

By Otis Smith

BALTIMORE'S worst fire since the conflagration of 1904 took place at the Crown Cork and Seal Company, September 17. Fire swept through nine acres of baled cork, and several buildings. The loss is reported to be in excess of $500,000. Fifty-seven fire companies were called on 15 alarms. One-hundred men were treated for injuries and burns. Only the determined heroism of the firemen saved the enormous plant.

Lack of sufficient water near the plant made it necessary to work pumpers in relays. This was further complicated by workers who hammered the heads off 400 sprinklers in the plant. These sprinklers wasted 10,000 gpm, enough water to have supplied fourteen pumpers.

First notice of fire occurred when flames shot up from a pile of cork in the south end of the yard. With explosive force, the flames spread to other bales, and the fire began a swift advance up the yard. The cork was arranged in piles, some thirty feet square and closely piled. At 2:35 p.m., the alarm office received its first call. Five companies responded and found half a dozen or more of the piles involved. A third alarm was pulled on the box at 2:39, a fourth alarm at 2:41, and the sixth alarm at 2:46. Then six more alarms were sounded from box 10-126, located in the main plant of the cork firm. These were sounded by a second at 3 pm, a fourth at 3:37, and the sixth at 3:50. Three more alarms were then sounded on box 1729. These were a second alarm at 4:41 p.m., and a third at 4:50.

As firemen worked desperately to arrange engines in relays to obtain water, the fire continued to advance through the yard and directly at the enormous buildings of the main plant. The fire was finally stopped just short of the main plant buildings. It surged forward so rapidly at times that 2,000 feet of hose had to be abandoned. No. 23 Engine was at one time surrounded by fire and was saved only through the swift action of the crew.

The main body of cork was allowed to burn during the early stages of the blaze as there were not sufficient lines to do more than head off the fire. The burning cork gave off so much smoke that it attracted spectators from twenty miles around.

After the sixth alarm had sounded, a general call was sent out for all available firemen to report for duty. These firemen from the off-shift placed nineteen reserve units in service. Three of these reserve engines were placed in service so fast that they were able to respond on and after the tenth alarm. The other reserve engines and trucks covered vacant houses. Reserves also responded to a two-alarm packing house fire on the day following the cork fire.

Forty-one companies remained in service, not counting the sixteen reserves that did not respond to the fire. Thirty-four companies made transfer movements, some of these transfers later responded to the cork fire. Nine Battalion Chiefs went to the fire, leaving one Battalion Chief for the entire city. This was soon corrected by two off-shift Chiefs who went into service with reserve cars. Both Deputy Chiefs responded to the fire and off shift Deputy Chiefs covered for them. Chief Engineer Howard Travers was in command of the fire.

Aerial View of the Fire Which Destroyed 1,000,000 Bales of Cork. Heavy Streams Were Used to Keep Flames from Buildings

This fire saw the greatest movement of fire apparatus that the Baltimore Fire Department has experienced. Despite the fact that fifty-seven companies were taken out of service, their places were soon covered by a redistribution of remaining companies. All available pieces of reserve apparatus were manned, and these nineteen units served their intended purpose well.

Chart of Apparatus Movements for the 15-Alarm Fire at the Crown Cork and Seal Co.

Box..... 1731—O'Donnell St. and Iris Ave.
Box.....10126—Crown Cork and Seal Co., main entrance.
Box..... 1729—Eastern Ave. and Macon St.

Alarm	Box	Time P.M.	Engines				Trucks	Hose	Chem.	Tower	Boat	B.C.	D.C.
1	1731	2:35	41	50	22	..	20	..	1	2	..	1	..
2	....	..	11	51	24	1	17	..	..	..	..	2	2
3	1731	2:39	5	34	9	..	24	..	..	..	..	8	..
4	....	..	3	6	32	..	3	..	..	..	..	5–2	..
5	1731	2:41	4	19	15	..	..	..	..	..	..	..	..
6	1731	2:46	28	2	27	..	..	..	..	..	..	..	..
1	....	..	18–11	10–5	8–3	..	15	..	..	..	..	3–1	1
2	10126	3:00	33	23	..	..	1	..	..	2	..	..	..
3	....	..	30–41	21–51	55–50	..	7–20	..	..	..	..	4–2	..
4	10126	3:37	20–9	29–19	SL 15	..	25–24	..	..	..	..	10–5	..
5	....	..	25–11	SL 4	17–2	..	..	..	..	..	..	..	..
6	10126	3:50	26	38	12	..	..	..	..	..	..	..	..
1	....	..	37–41	13–11	36–3	..	16–20	..	..	..	..	6	..
2	1729	4:41	14–6	56–19	..	..	4–3	..	..	..	..	..	..
3	1729	4:50	SL 6	43–28	42	..	10–1	..	..	..	..	9–8	..

Note that several alarms were skipped and the next alarm sounded. Only six alarms may be sounded from a box. The next nearest box is then used for the following six alarms. The "SL" symbols in the engine columns refer to Second Line Reserve engines. The hyphenated company numbers means that a company responded from another's quarters.
Engines left in service: 7-16-31-35-39-40-44-45-46-47-48-49-52-53-54-57-58.
Trucks left in service: 2-5-6-8-9-11-12-13-14-18-19-21-22-23-26.
Hose Co. left in service: 1-2-3-4-5. Chem. left in service: 2-3-4. B. C.: 7.
Engine transfers: 17-2, 10-5, 18-11, 8-3, 20-9, 29-19, 21-51, 55-50, 30-41, 25-11, 7-11, 56-19, 37-41, 13-11, 14-6, 36-3, 43-28, 31-19, 35-3, 52-6, 58-51, 46-32, SL40-20, SL54-56, 14-7.
Truck transfers: 4-3, 7-20, 25-24, 10-1, 16-20, 18-3, 5-1, SL8-20, SL18-7.
Batt. Chief transfers: 5-2, 3-2, 4-3, 3-1, 4-2, 10-5, 9-8, 7-4, 7-5.
Second Line Reserve Engines in service: 4-6-8-10-15-17-19-21-23-25-26-27-33-38-40-41-54.
Second Line Reserve Trucks in service: 4-5-8-10-17-18.
Second Line Reserve Chemical in service: 1.
Second Line units are placed in service by members of the off-shift. They are old engines and trucks, equipped for instant use.

CENTRAL FIREMEN'S SCHOOL STARTED AT CAMP IN MAINE

Officials Pleased with First School Held at Camp Keyes, Augusta, Sponsored by Maine Fire Chiefs

By J. W. Randlette

FIREMEN'S training was inaugurated in Maine, in the form of a central school at Camp Keyes at Augusta. Camp Keyes is the training field for the National Guard units. Arrangements were made for the use of the field and its equipment, a camp chef was secured and the school opened for a three days training course June 21 to 23, 1940. A limit of eighty members for the course had to be established. All Fire Departments were notified, and requested to state the number of men they would send to the school. They were told that credit for the course would be given those men only who were present for the entire course.

Sixty-five men reported at the opening of the school on June 21. The men were divided into four divisions, and one hour lectures were given the men on knots, care of fire hose, chemistry of fire, first aid, building inspection, apparatus and pumps, salvage operations, fire streams and hydraulics, forest fires, fire fighting operations, forcible entry and ventilation, fire department tools, investigation of fires, and two hours each day were devoted to various drills and evolutions.

The instructors for the different subjects were chosen from a large field of volunteer workers:

Fire Department tools—Massachusetts Educational Dept. demonstrating truck.
Knots — Capt. Ernest J. Verdeber, Lewiston Fire Department.
Drills and evolutions—Capt. T. S. Murdock, Portland Fire Department.
Apparatus pumps—Manufacturers.
Salvage operations—Capt. Lorton C. Waldon, Worcester, Mass.
Building Inspection and Investigation of Fires—Commissioner C. W. Lovejoy of Maine.
Care of Fire Hose—Charles E. Gorman, Augusta.
Chemistry of Fire—Prof. C. E. Otto, University of Maine.
Fire Fighting Operations—Chief Charles O. Spear, Jr., South Portland Department.
First Aid—Erskine E. Noyes, Central Maine Power Company.
Fire Streams and Hydraulics—Prof. H. D. Watson, University of Maine.
Forest Fires—Commissioner, Raymond E. Rendall, Maine.
Forcible Entry and Ventilation—Chief Allen F. Payson, Camden Department.

The course of training was sponsored by the Maine Fire Chiefs Association, and conducted in conjunction with the Vocational Education Bureau of the State Department of Education, and the Insurance Department. The men who took the course were enthusiastic, and greatly appreciated the benefits derived from the course. They requested that another course be held in August or September, but because of the defense plans, it was impossible to obtain the use of Camp Keyes for a later meeting during the present year. It is hoped to continue the work by at least one course each year.

The number of departments represented was a small percentage of the number of departments in the state, but the sponsors were pleased with the results of the first training course on so large a scale, and later courses will without doubt be more largely attended, with possible larger classes to be arranged.

Second Course in State

This is the second course that has been held in Maine through the State Association of Fire Chiefs of Maine, the first course being held during the year 1936-1937. Courses then were held at Portland, Lewiston, Biddeford and Bangor, with volunteer Chiefs as instructors, and drill evolutions being conducted by the drill masters of those departments. This was a successful course, but it was thought that a larger number of departments might be benefited by a central school.

While Maine has not been credited with having training courses for firemen in the publications of such activities, and is listed as one of the states that does not have such training, it has been due to the fact that no publicity has been given the training of firemen in Maine. The problem of firemen training in Maine, is more difficult than most states, because of the large territory that it is necessary to cover, and because of the fact that the greater number of the departments are of the volunteer plan. It is difficult for many of the members of the various departments, to take the time from their regular vocations to attend training schools. With the success of the first attempt at a central training school, it is now felt that such training schools will become more and more beneficial, and also more important with the defense program that may be inaugurated.

As many of the men in the various departments may be called in the draft for military training, and new men will be taking the places of those called for military service, the importance of firemen training will be increased.

Firemen Operated Illegally

In tracing through the old ordinances in Des Moines, Ia., it was found that during all the years the Fire Department ordinance was supposed to have been in force, the Des Moines firemen have been extinguishing fires under a false pretext. The ordinance, creating the fire department, passed in 1884, had never been signed by the Mayor. However, an up-to-date ordinance is now on its way to passage.

Among the Fire Fans

By Otis Smith

BOX 9 Association, Attleboro, Mass., held its first fall meeting at the Central Fire Station, October 3. A supper of Italian spaghetti and meat balls was served by a local caterer.

An amendment to the Constitution was voted, establishing a Board of Appeals, to which any member dismissed from the Patrol may appeal for a hearing. Decisions of the Appeal Board will be final. Members of the Board are Frank H. Straker for one year; Charles Estee for two years, and Earle Whitney for three years. This information from Secretary Jesse Carpenter, Jr.

When this writer mentioned that he would send a copy of the Crown Cork and Seal (Baltimore) 15-alarm fire assignment sheet to interested persons, he did not anticipate such a large request for the sheet. The first half dozen requests were answered without any delay. However, when they began coming in at the rate of four and five a day, without a self-addressed stamped envelope, the expense called a halt to the proceedings. It is nice to know that this column is read of such a wide section of the country, and that firemen as well as fire fans read it. I regret that no more requests for the sheet can be answered unless a self-addressed stamped envelope is enclosed. Those who have written and have not received a reply will understand the situation, and forward a self-addressed stamped envelope to this column.

From Louis Turinetti, 509-11 S. Central Ave., Los Angeles, Calif., comes a photo of several model fire engines he has built. Louis is also building another model pumper.

"The Blanket," published by the Rockland County Emergency and First Aid Council (New York) is of interest to fire fan clubs and volunteer fire departments. The Editorial office is listed as 218 N. Midland Ave., Nyack, N. Y. However, we note that Mr. Babcock is supposed to have dropped the editorial post, and so we cannot verify the above address.

From Francis J. Bertrand, 16 Custer St., Jamaica Plain, Mass., comes three photos of the boat Matthew J. Boye, Engine 44 of the Boston Fire Department. Mr. Bertrand is interested in trading photos.

Joseph W. Orendorf, Jr., has moved and is now living at 3524 Lawton Ave., Detroit, Mich. . . . a fire fan of Washington, D. C., is Howard Larcombe, 227 Laurel St., Silver Spring, Md. Mr. Larcombe is also a member of the Silver Spring V. F. D., a five-piece outfit. Mr. Larcombe has numerous photos of Washington apparatus and is interested in acquiring fire scenes of various types.

The Boston Fire Department radio operates on a frequency of 1,630 kc., and box alarms are tapped over the system, using a 1,000-cycle tone dash for each tap. The short wave frequency of the WEY is 184 meters. This information from E. E. Douglass, Treasurer of the Mystic Sparks Club of Medford. Two new members of the Club are John Coleman and John Sencabaugh. Mr. Douglass' address is 33 Walnut St., Medford, Mass.

The Boston Sparks Association participated in the Fire Prevention Parade, held in Boston on October 6. The Sparks had a color guard, band, and marching delegation. This was followed by the Sparks' float, which attracted very favorable attention.

The float illustrated cellars, showing safe and unsafe conditions. Marching units were served with coffee and doughnuts by the Sparks, as they disbanded on the Boston Common.

Every city and town surrounding Boston sent marching delegations and new apparatus. The parade took more than an hour to pass a given point. On October 12, the Sparks also took part in a Fire Prevention Parade in Cambridge by invitation of Chief Guthiem.

The October social meeting of the Sparks was held at Danvers, Mass. Members went to Danvers in a chartered coach and spent an enjoyable evening as the guests of Chief Joseph Kelley. Chief Mahoney of Peabody was also present and gave an interesting talk relating to some of his experiences.

Vincent Bolger, publicity man for the Sparks, was a recent visitor to New York City. While there, he visited the Erie Bell Club and also responded to a Bronx second alarm.

Robert Upton, Montclair, N. J., fan announces himself as the proprietor of the Modern Photos shop in that city. Also from Mr. Upton is a photo of himself at the pipe during a severe 5 & 10 fire in Montclair. His address is 25 Park St., Montclair, N. J.

Fireman Lawrie Clark, Newton, Mass., and Jimmie Jackson, Oswego, N. Y., got together recently at Oswego. Both Lawrie and Jimmie build fire engine models and had quite a time comparing notes. They also visited Fulton, N. Y., and climbed over the Hayes aerial there.

Does anyone know when the Knox-

(*Continued on page* 576)

45TH FIRE FACTS BY OTIS SMITH
INSTRUCTIONS
1 WHEN FIRE CALL IS RECEIVED PLACE RED PLUG IN RED JACK CLOSEST TO REPORT OF FIRE.
2 CLOSEST LOCATION OF FIRE HYDRANT WILL LIGHT.
3 LEAVE PLUG IN.
FIRE LOCATION PANEL
BROOKLYN COMMUNITY VOL. FIRE Co., MD.
PLUG IS PLACED IN JACK TO SHOW APPROXIMATE LOCATION OF FIRE TO LATE COMERS.
PLACING OF PLUG ALSO CAUSES A YELLOW BULB TO LIGHT, SHOWING LOCATION OF NEAREST FIRE HYDRANT.
HELMET FRONTS WASH., D.C. FIRE DEPT.
CONTAIN THE FIREMAN'S RANK, BADGE NUMBER, AND THE INITIALS D.C.F.D. COMPANY NUMBERS ARE NOT USED ON HELMETS.
UNUSUAL INCENDIARY NOTE
ALMOST A SCORE OF BALTIMORE CO. (MARYLAND) BARNS HAVE BURNED RECENTLY. IT IS BELIEVED THE FIRES WERE DELIBERATE. POLICE SAY THAT FIRES MAY HAVE BEEN STARTED WITH AID OF MARSHMALLOWS! A PENNA. MAN IS REPORTED TO HAVE BOUGHT A BOX OF THE INFLAMMABLE MARSHMALLOWS IN VICINITY OF EACH FIRE SHORTLY BEFORE THEIR DISCOVERY.
THE PAPERS WERE RATHER WAGGISH AS TO THE FATE OF THE EVIDENCE TESTED BY THE POLICE.

CONNECTICUT STATE FIREMEN CONSIDER COMMUNITY DEFENSE

Principal Speaker Stresses Part to be Played by Firemen in Program Against Sabotage to Industry

By Thomas F. Magner

CAPTAIN Charles H. Brundage of the New Haven Fire Department was elevated to the presidency of the Connecticut State Firemen's Association at the fifty-seventh annual convention held in the Elks' Auditorium, Danbury, Conn., on August 23. Captain Brundage served as State Vice-President during the past year and his choice was unanimous.

George Brencher, a member of the Board of Fire Commissioners at Darien, and Treasurer of the Fairfield County Fire Chiefs' Emergency Plan, was elected State Vice-President without opposition. D. William Harford of South Norwalk, veteran Secretary of the Association, was again renamed to that post.

Chief Charles H. Brundage

In the only contest for a major office, Thomas C. Bracken of Branford, former President of the firemen's organization and a member of the Legislative Committee for several years, defeated Fire Chief George B. Milne of Rockville by a close margin of 12 votes. Bracken's vote was 234 to Milne's 222. The post of Treasurer was left vacant due to the recent death of Deputy Chief Michael T. Souney of the New Britain Fire Department, who held the office for seventeen years. Rev. Michael J. Thompson of Niantic was again chosen as State Chaplain.

State Vice-Presidents

Vice-Presidents to represent the eight counties in the state were named as follows: Litchfield County, John Boylan, Torrington; Hartford County, R. G. Woodbridge, Glastonbury; Tolland County, George B. Milne, Rockville; Windham County, Harold Burgess, Danielson; Fairfield County, Jesse C. A. Meeker, Danbury; New Haven County, A. Miles Nettleton, Milford; Middlesex County, Thomas H. MacWhinney, Essex; New London County, Carl J. Rosen, Stonington.

The highlight of this year's convention from the standpoint of interest, especially at this time when world conditions are in a turmoil, was the lengthy address delivered by the principal speaker, Edward J. Hickey, State Police Commissioner, of Hartford, a member of the joint defense board appointed by Governor Raymond E. Baldwin, on the part firemen of Connecticut must play in the program for national defense.

Commissioner Hickey spoke to the assemblage as a triple job holder—Commissioner of State Police, State Fire Marshal, and State Co-ordinator of the law enforcement section of the State Council of Defense.

Program Started Long Ago

"Connecticut had organized its State Council of Defense long before other parts of the nation had shown an awareness of the problem," Commissioner Hickey declared. "At a conference of State and Federal officials held in Washington, this state was highly complimented on its fine organization. Each community must prepare the plans necessary to meet particular local conditions. As you men go about your duties as firemen, keep on the alert at all times for evidences of sabotage in connection with fires which damage industrial plants.

"Most important, however, is to keep all men informed of the necessity of reporting all suspicious conditions and objects to their superiors, who, in turn, will co-operate with our law enforcement officials. Defense, be it national or state, really means community defense. We all live in the communities of this state and to be caught unaware may bring disaster."

Association to Aid in Defense

At the conclusion of Commissioner Hickey's remarks, it was unanimously voted upon motion by Secretary D. William Harford, that the Association cooperate in every possible manner with the defense program.

Following the memorial service held by Chaplain Thompson, the report of the Retiring President, Chief Cornelius J. Carrigan of Terryville was read and approved. The members also heard and approved the year's report of the Legislative Committee headed by Capt. Philip J. Thompson, Bridgeport. The annual report of Secretary Harford showed that during the year 315 claims were drawn on the General Fund requiring the sum of $23,181.45 to be paid. Claims from the Association's Special Fund amounted to $2,285.07. During the year, firemen met death from actual fire duty. They were Deputy Chief Michael T. Souney of New Britain; Chief J. Milton Galvin, Naugatuck; Harold Judd, West Hartford; Frank Law, Bristol; Edward J. Farrell, Hartford, and William Kiely, New London. Proper proceedings of respect were followed by the Executive Committee in paying tribute to Treasurer Souney during his illness, at time of death, and burial as an officer of the association.

Nine new companies joined the association during the past year, which records the present company membership at 400. Five companies were dropped from the rolls.

Upon invitation from the West Haven Fire Department, it was voted to hold the 1941 convention in that town.

Testimonial to Chief McNamara

On Friday evening following the first day's business session, a splendid dinner and testimonial to Chief John H. McNamara, convention host, was held at the Hotel Green. Mayor Martin J. Cunningham was toastmaster. The principal speaker was Rev. Hugh Shield, Pastor of the Congregational Church, Ridgefield. Other speakers at the dinner were President-elect Charles H. Brundage; Ex-President C. J. Carrigan; Commissioner of State Police Edward J. Hickey; Edgar M. Gerlach, Warden of the Federal Correctional Institution, Danbury; Ex-Chief Peter Beckerle, President of the Fairfield County Fire Chief's Emergency Plan; George A. McLachlan, President Danbury Chamber of Commerce; Edward T. Buckingham, Compensation Commissioner, Bridgeport, and Lieut. Leo Carroll, Ridgefield Barracks, State Police Department.

With the closing of the convention on the following day, the annual firemen's parade took place through the main streets of Danbury and terminated at the Danbury Fair Grounds. Over 5,000 firemen with their apparatus took part in the parade. Prizes in the various events were awarded by the judges' committee in the evening.

Chief O'Hearn Nears Half-Century Mark

Chief John W. O'Hearn of Watertown, Mass., Fire Department recently observed his forty-fifth anniversary as a fireman. He is the permanent Secretary-Treasurer of the New England Association of Fire Chiefs and Vice-President of the International Association of Fire Chiefs.

Hayes Reenlists in the Army

Charlie Hayes, honorary Fire Marshal for Jefferson County, N. Y., and salesman for fire hose and supplies for the leading manufacturers during the past twelve years, became a member of Company A., 108th Infantry of New York National Guard. After completing eighteen years of service in the Guard, he had the chance to resign, but heeding his country's urgent call for men, he reenlisted. His wife will carry on his business during his absence from the business.

Group of Men Attending the Second Annual Firemen's Training Conference, State College, Pa.

SECOND FIREMEN'S SCHOOL HELD AT STATE COLLEGE, PA.

Men from Several States Registered —Firemen's Jamboree Proves Successful Entertainment Feature

By Arthur W. Espey
Head Teacher, Fire School, Public Service Institute, Harrisburg, Pa.

THE Second Annual Firemen's Training Conference conducted by the Public Service Institute, Department of Public Instruction, Commonwealth of Pennsylvania, in co-operation with the Firemen's Association of The State of Pennsylvania and the Pennsylvania State College, was held the last week in August at State College.

While a solid week of inclement weather made it difficult for certain groups to follow the schedule of instruction, the school was a definite success. The two hundred and more registrants were roomed in the State College dormitories and all meals were served in the College Sandwich Shop. The faculty was housed at the University Club.

An arrangement similar to that of last year provided instruction to individual sections known as Chiefs and Supervisory Officers; Engineers, Drivers and Mechanics; Rank and File of Firemen; and Fire Department Instructors and Drillmasters.

All indoor classes were held in the Liberal Arts Building while the General Evening sessions were conducted in the auditorium of this structure. The huge Recreation Hall was taken over by the rank and file of firemen, while practical hose and ladder evolutions were performed outside this immense building.

Firemen's Jamboree

A Firemen's Jamboree was the high light of the Thursday evening session and a program was provided by the men enrolled for the conference. Much unusual talent was discovered and five of the acts carried away suitable prizes donated by the manufacturers of fire equipment who had their displays in the Recreation Hall. One of the outstanding acts was Andy O'Hotnicky and his trained Fire Dog, "Chief," who climbed a ladder to the second story of the dormitories and rescued a baby doll. The world's smallest fire engine, product of the ingenuity of Frank Blankenmyer of the Lancaster, Pa., Fire Department attracted considerable attention. The Alpha Fire Company Quartette of State College; The Undine Water Nymphs of the Bellefonte Fire Department; The Coon Town Fire Department made up of members of the Fame Fire Company of Lewistown, and members of the Sayre, Pa., Fire Department, Bob Jones of Cresson, Harry Hamby of Swarthmore and Russ Baker of Yeadon were a decided hit. Bill Harkins of the Lansdowne Fire Department won laurels as a monologuist. Other equally fine acts were well received. The Jamboree proved to be such a hit that plans are being made to include this feature in the 1941 program. "Socks" Kennedy of the State College staff acted as the Master of Ceremonies.

Espey in Charge of School

The Fire School or Conference Faculty, under the direction of Arthur W. Espey, Head of the Pennsylvania State Fire School was as follows:

Section 1—Chief Ross B. Davis, Philadelphia, assisted by Chief George Carpeneto, Bellefonte; Chief A. N. Yearick, Lewistown, and Chief Lawrence Scully of Erie.

Section 2—Master Mechanic Raymond V. MacNeill, Harrisburg, assisted by Robert A. Jones of Cresson; George Mellinger of Lewistown; Bill Snyder, Allentown, and Lieutenant Charles C. Taylor, Philadelphia.

Section 3—Captain Joseph P. Fay, Instructor of Pittsburgh Fire Department, assisted by Battalion Chief George Ferrier of Philadelphia; George Cartwright of Johnstown and Harry Zeller of Sayre.

Section 4—Professor W. Fred Heisler of Oklahoma A. & M. College and William E. Brunton of the University of Pennsylvania, assisted by Captain William Fulham, Pittsburgh, and Fire Marshal J. Jack Weiss of the Philadelphia Navy Yard.

Speakers at the School

On the speakers' list were the following outstanding authorities who spoke on subjects of interest to the fire fighters:

T. Alfred Fleming, National Board of Fire Underwriters
Chief Ralph J. Scott, International Association of Fire Chiefs
Professor Amos E. Neyhart, Pennsylvania State College
Horatio Bond, National Fire Protection Association
Dr. David J. Price, U. S. Dept. of Agriculture, Washington
Battalion Chief George I. Ferrier, Philadelphia Fire Department
Captain T. N. Boate, Pennsylvania Motor Police
Lieut. Elmer W. Faber, Pennsylvania Motor Police
Harry D. Immel, Director, Inspection, Pennsylvania Dept. of Labor and Industry
Captain William F. Treager, State Fire Marshal of Pennsylvania
Chief Forest Fire Warden George H. Wirt of Pennsylvania
Professor John R. Haswell, Pennsylvania State College
C. B. White, Chief Chemist, American-LaFrance and Foamite Corpn., Elmira, N. Y.
George L. Seth, Mine Safety Appliances Company, Pittsburgh

The Lewistown, Cresson, and State College Fire Departments furnished several pieces of fire apparatus for use at the school. The American-LaFrance Foamite Corporation; Buffalo Fire Appliance Corporation; The Mack-International Fire Truck Corp.; and the Kerotest Company of Pittsburgh had fire trucks on display throughout the entire week.

Demonstrations of both the Atlas and the Superior Life Nets were given, and the Walter Kidde Company, through F. E. Saunders, showed methods of fire extinguishment, as did also the American-LaFrance and Akron Brass Company representatives. Ray Cornmwell of the Kerotest Company spoke on dangers of

oxygen and acetylene. The Safety First Supply Company of Pittsburgh demonstrated the E and J resuscitator. Lighting facilities, through Homelite plants, were provided at night by courtesy of Harvey Boorst of Greenburg. A talk on hydrants was given by Richard H. Reinhold, of the Darling Hydrant and Valve Company, Williamsport.

The concluding ceremonies were held on Friday afternoon, August 30. Certificates of Attendance were awarded the men in attendance by Mr. George L. Townsend, Acting Principal of the Public Service Institute which was preceded by a brief address by Dr. Paul Cressman. Dr. Cressman is the Director of the Bureau of Instruction, Department of Public Instruction under which the Public Service Institute functions.

Among the men who received certificates were several out of State fire fighters including Chief Francis E. O'Boyle, Middletown, N. Y.; Edward Hart, Endicott, N. Y.; Justus Dimon, Waverly, N. Y.; Rufus Gleason, Wellsburg, N. Y.; and Chief Grey Marsh of Weston, W. Va. The men in attendance presented a gift of appreciation in the form of a beautiful pen and pencil set to George L. Townsend and Arthur W. Espey, Principal and Fire School Head respectively, at the conclusion of the course.

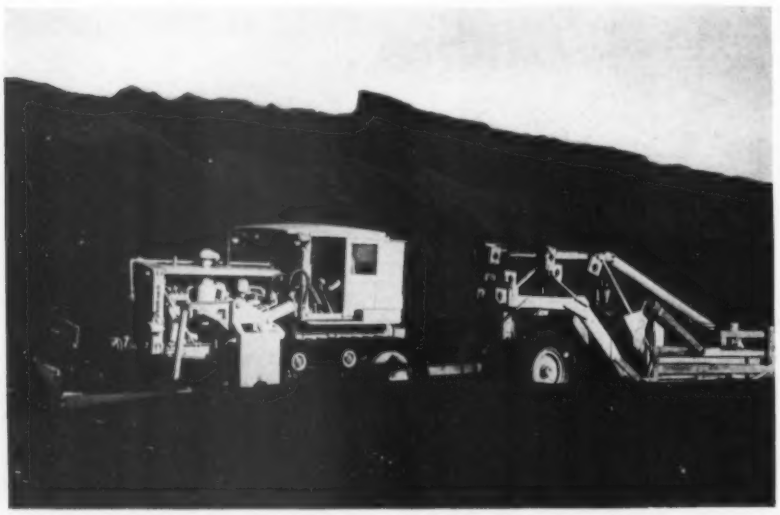
SHUTTING OUT AIR IN COAL PILE REDUCES DANGER FROM FIRES

Method Found for Eliminating Possibilities of Fire in Large Hills of Stored Coal

A THOUSAND tons of coal a day, that is the requirement of The Dow Chemical Company's plant located on the Tittabawasse River at Midland, Mich. And when an industry's coal consumption reaches figures of such proportions, the problem of handling and storing it becomes a major one. Until 1937, the coal was stored in conical piles of 8,000 to 12,000 tons each. It was dumped directly from lake boats and piled loosely, just as it fell, thus allowing the air free entry. Furthermore, the fine and coarse particles soon separated, the former becoming more firmly compacted than the latter. When a second load was dumped on top of the first one, the same thing happened, and so on, forming a pile made up of alternate layers of fine and coarse coal. The latter, not being tightly packed, constituted what might be called flues which, in case of fire, functioned much the same as conventional flues do in chimneys. In other words, the warm air rising through them allows cold air to filter through the coal at the bottom and to feed the flames. Temperatures were taken weekly, and an average rise of one-half a degree per day was noted—the increase being the result of chemical reaction between the oxygen in the air and the constituents of the coal. It was often necessary to repile the coal to prevent spontaneous combustion; and even though this involved a considerable outlay, the expense was minor compared to that incident to fires of this sort.

When it became necessary three years ago to carry a larger stock for a longer period of time, the whole question of handling and storage was investigated, with the result that the coal is now piled at the plant in horizontal and not in oblique layers. It is delivered from the Company's docks at Bay City by rail, and then loaded, transported, and tightly compacted by one crawler-type tractor showing a buildozer and hauling a carryall. This unit handles on an average 130 tons of coal an hour. Each layer is graded before another is added, and the top one is rounded off to insure proper drainage. With the correct pitch, it is possible to do this without appreciably increasing the moisture content.

The method has now been in use for three years, and in that time no temperature rise has been noticed, even after eighteen months of continuous storage, and there has been no need of any repiling. It is further claimed that it effectually eliminates the formation of flues and therefore the infiltration of fire-breeding oxygen.



Coal Handling Equipment

The single crawler-type tractor by means of which the large quantities of coal used at the Midland plan of The Dow Chemical Company is moved, distributed, and compacted in building up storage piles made up of horizontal instead of the usual oblique layers. The tractor is air conditioned and heated for the comfort of the operator.

Reprinted, Courtesy of Compressed Air Magazine.

Training Work for Firemen

The fire department of Toledo, Ohio, puts its rookies through practical "fire-eating" tests as a result of a WPA project, which built a sixty-five-foot brick and stone, steel structure fire drill tower.

Standing like a miniature skyscraper in the midst of a residential district, the drill tower is being used "from dawn to dusk every day the weather permits," as its supervisor, Chief Karl Scheidler says.

Daily classes, selected from the city's fire squads, receive training in use of fire ladders, rope sliding, wall scaling, hose connecting, sprinkler system operation and life net handling. A life size dummy is thrown from varying levels of the six-story structure to give men below practice in catching victims of fire traps.

The tower is equipped with all the apparatus firemen might come across in fighting fires. Every floor has inside hose and outside hydrant connections, and window sills on each floor are complete with hose-hauling devices. The first floor of the tower is enclosed and is used as a smoke chamber. It also contains a wet-sprinkler system. Trainees don gas masks and step into the first floor chamber to become acclimated to their "occupational environment."

A public demonstration showing how the tower figures in training of new firemen was presented in October by the Toledo Fire Department. As Chief Scheidler puts it, "When I started training men in fire-fighting practices, fire squads consisted of six men. Now the squad consists of three or four men, so you can see how much more efficient a man must be today. He must do half again or twice as much as formerly. The fire tower enables us to turn out well-trained men."

From the fire drill tower men are sent to classrooms to dig into the theory of fire fighting, having already taken a taste of the practical.

The fire tower is square-shaped, 20 feet by 20 feet, and is six stories high with only brick openings for windows. Its foundation is five feet in the ground and is laid in 21-inch concrete; steel stairs go to the roof inside the tower and a steel fire escape descends the wall outside; a steel ladder to the roof is found on the inside and there is a pipe railing around the roof. The tower is of brick construction, with concrete reinforced floors.

Total cost of the project was $12,843.75

★

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THESE LETTERS SPEAK FOR THEMSELVES

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E. P. REMY, Secretary
GREENTREE, PENNSYLVANIA

WESLACO, TEXAS
D. B. SMITH & CO., Utica, N. Y.
Gentlemen: I had no idea INDIAN FIRE PUMPS were such a valuable piece of equipment. With the exception of four or five alarms we have used INDIANS at every fire and in most instances completely extinguished it with no other extinguishing agent. They make no mess and the clear water harms nothing.
E. E. SALGE, Fire Chief.

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Here you see the Tungar one-battery Chargers, the 5-ampere and the 6-ampere. Also—the Tungar 6-battery Charger.

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Coat No. 331 and bunker pants No. 341 . . . any size pants, coat up to 35-in. length . . . equipped with detachable wool linings and the famous Midwestern safety snaps that cannot possibly catch on anything. Material in linings, 86 per cent pure wool; linings edged with reinforced rubberized fabric; coat has two outside pockets with snap fasteners; flexible, elastic inner sleeves for wrists—keeps out water, cold and sparks; corduroy lined collar on coat; pants equipped with cloth crotch pads for pole sliding . . . and many other exclusive Midwestern features that make this extra-serviceable outfit most desirable.

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BRAXMAR BADGES

Standard for Over Sixty Years

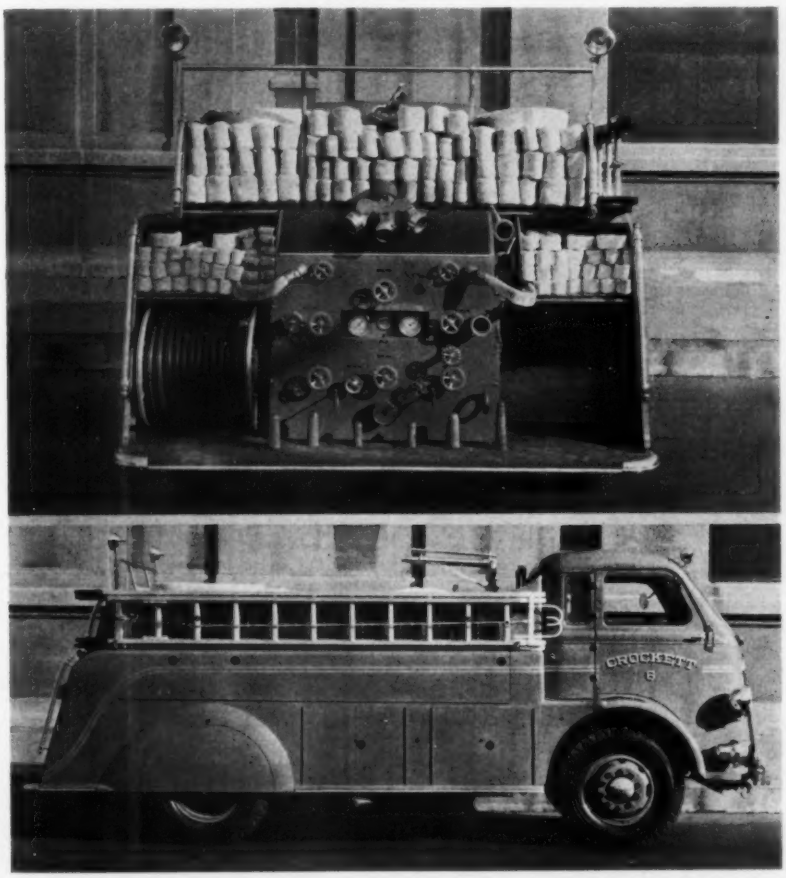
Protection for Crockett, Cal.

(*Continued from page* 559)

gauge, cooling water valve, relief valve, three-way turret nozzle inlet, and the twelve valves which control the water flow in the various directions. These valves are all properly labeled and illuminated by indirect lighting. The pump can also be operated from the cab.

The water piping is so arranged that water can be by-passed from the turret manifold to the four pump outlets. Pump suction is from the tank or from hydrants and can be switched from one to the other with no break in the flow of water. If the hydrant pressure is sufficient, the pump can be by-passed and the apparatus used as a manifold wagon.

A fireboat is the last piece of apparatus which is used to protect the waterfront of Crockett. This boat houses an 800 gpm pump and a 800 gpm turret.



New Truck for Crockett, Cal.

Crockett Fire District, Crockett, Cal., recently purchased this new Autocar Fire Apparatus. The equipment includes a 500-gallon water tank, a 200 gpm. pump, 800 feet of three-inch hose, 600 feet of 2½-inch hose, 200 feet of ¾-inch booster line, 600 gpm. portable Morse Turret with one-inch, one ¼-inch and one ½-inch nozzle tips, two extension ladders, two roof ladders, one inside folding ladder, and many other pieces of special lighting, life-saving and first aid equipment and fire-fighting tools. The operating panel for the pumps is placed at the rear of the truck.

Dedham Chief Dies Directing Rescue

While attempting to rescue four men who were trapped in a recent fire, in Dedham, Mass., Chief H. J. Harrigan, sixty-six-year old Chief of the Dedham Fire Department, collapsed and fell through the roof of the burning building. Rushing to his superior's assistance, hoseman Joseph Nagle was overcome but quickly responded to treatment. Chief Harrigan was dead by the time a rescue squad could get to him.

Chief Harrigan was born in Dedham in 1874. For nine years after joining the fire department he was with a hook and ladder company. He remained a member of the Board of Fire Engineers until 1910 when he was selected to head the group. Eleven years later, he was made permanent Fire Chief when the Board of Engineers dissolved.

Wants Pictures of Ladder Accident

During a ladder exhibition before the state convention in Lewistown, Pa., on October 3, a tragic accident befell the Assistant Chief of the Bellefonte, Pa., Fire Department when the ladder which he was climbing buckled and fell to the pavement.

Chief George Carpento, of Bellefonte's Bureau of Fire, is conducting a thorough investigation of the accident. He is endeavoring to locate pictures that may throw some light as to why it happened. Chief Carpento would appreciate any pictures that were taken at the time by Chiefs, firemen or others.

Among the Fire Fans

(*Continued from page* 569)

Springfield Aerial went in service in fire departments? Grant Miller, 11 Orchard St., Bloomfield, N. J., popped the question. Grant also mentioned that the tractor had only three wheels. . . . Henry De Clerck (we believe that is the correct spelling) 1214 Lakepointe, Grosse Pointe Park, Mich., is interested in acquiring literature, etc., on fire fighting, and on fire fan clubs.

Received from William Wallace, 198 Linden Street, Rockville Centre, N. Y., is a copy of his 1940 Apparatus Chart for New York City. All units, their make, size, capacity, and year, are listed. The chart sells for 50c.

Literature received by this column during the past month included eight photos, and the New York chart. We are beginning to have quite a collection of fire photos and so forth. While on the subject, thanks (a rather belated thanks) to Johnny Weisberger of New York city for those twenty-one action photos of fires.

Assistant Chief Welte Dead

A. H. Welte, Assistant Chief of the Goshen Fire Department, died at the fire station a few hours after answering an alarm.

Arthur Welte was born near Monticello, Ind., and when a young man, he moved to Goshen where he became a member of the Volunteer Hose Company. When the paid department was established in 1906, he was the first man to be employed and was made a Captain. Since then, he has served as Assistant Chief, and Chief. He held the latter position from 1936 to 1940.

Mr. Welte was a member of the Indiana Firemen's Association and an associate member of the Indiana Fire Chief's Association. Funeral service was attended by large groups of firemen from neighboring departments.

Peekskill Company Celebrates Anniversary

About 25,000 people witnessed the parade and celebration, last labor day, in honor of the 100th anniversary of the organization of the Washington Engine Co., Peekskill, N. Y., Fire Department. Each of the six companies of the department had four companies as their guests, and each tried to outdo the other in the way of food and liquid.

The parade took over an hour to pass the reviewing stand. Each of the thirty companies had their own bands, and as they passed by the reviewing stand, they went through their drills. The Young America Company No. 6 of Poughkeepsie, N. Y., won a cup for their appearance in the traditional red shirts and white helmets.

GORDON R. MULLINS.

Our inquiring reporter overhauls the firemanic news of the day

You-Hoo-o-o- C'm on Over!

Roy Self, furniture store employee of Henryetta, Okla., discovered a divan burning in the store. He stuck his head out the window and emulated a hog-caller. His employer, Wayne Champion, phoned the Fire Department.

Before Champion could get his connection, the Department was on the job. Seems they were right across the street and Self's yell did the trick.

* * *

One Run—Two Fires—No Errors

Out in Canton, Ohio, the Braves were returning from a fire and hadda stop at a red light. At that moment they heard someone yell "Fire!" Jumping off their trucks, the lads went to work without delay on a blaze in a nearby motorcycle shop. Fire doused, they resumed trek to quarters and chalked up two "put outs" and no "errors."

* * *

Well! Well!—a "15-Alarmer!"

Brother Otis hasn't given us the low down on this, but the wayward press recounts the story of a "15-alarm fire in Baltimore" which caused $500,000 damage to cork plant, brought most of city's firemen to scene, resulted in injuries to score of men. Doubtless the "15 alarms" were mostly made up of "special calls," eh Otis?

* * *

New Twist to Old Gag

The old wheeze about mailing a letter in the fire alarm box got a new quirk t' other day in Columbus, Ohio, where J. C. Stopf, postmaster (no less) of Willard, Ohio, actually tried to post a letter in a downtown "box" and brought eight pieces of apparatus and plenty of irate Brothers. "Postmaster" Stopf, who had been attending the National Postmasters' convention admitted he mistook fire alarm box for mail box!

* * *

Tragedy

Joseph de Lallo, Asst. Chief of the Undine F. D. at Bellefonte, Pa., toppled to his death from atop a 65-foot ladder during drill maneuvers at the convention of the Pennsylvania State Firemen's Assn. Crowd of 2,000 saw the ladder, which had been extended vertically, buckle in the middle, sending Chief de Lallo to the ground.

* * *

Quick Fadeout

Down 'n Dallas, Texas, sheriff's officers and others hunted unidentified man who was badly injured and had clothing half torn off by gasoline explosion which demolished interior of suburban drugstore. Nearby residents reported man ran frantically through neighborhood, jumped on passing motor car, and screamed *"My God, get me to a hospital."* Officers found pieces of human flesh in front of drug store and parts of clothing in side street—but no victim, or *corpus delecti.*

* * *

Rescuers Were Rescued

Three employees of General Tanning Co., Irvington, N. J., were overcome by fumes while cleaning a vat. Three firemen, Capt. Harry Zigenfus, firemen Lloyd Smith and John Bonnet, attempted to save them without wearing gas masks. Result: the six men had to be pulled from the 12-ft. deep vat by police emergency squad and hospitalized. Condition of three employees reported as "serious." B. K.

* * *

Truly "Malicious False Alarm!"

Out in Seward, Neb., townspeople had been chasing fire trucks despite a city ordinance regulating such traffic. So the Brothers engineered a deliberate "false alarm" with these results: More than 300 excited people flocked to the scene of the supposed "fire!" One hundred received "tickets," advising them hereafter to obey the law.

* * *

They Still Get a Laff

We've printed similar wheezes before, but we allus like to get more of 'em. So, when Earle Robinson, demon "clipper" of Des Moines, sent this, we simply gotta print it: Out in Portland, Ore., patrolman F. J. Cooney stopped a speeder, who huffed "Why doncha ask me if I'm going to a fire?"

"Okay," said Cooney, "Are yuh going to a fire?"

"Yeah, I sure am," came back the speeder, "I got a telephone my barn's **on fire!"** Cooney opened 'er up and led the way.

* * *

It's an Idea, Anyway

Five 15- and 16-year-old boys who thought it a lark to burn down a vacant house in Waltham, Mass., had plenty chances to reflect on the "evil of their ways" as they polished brasses and scrubbed floors in Waltham fire stations. District Court Judge P. W. Cunniff suspended indeterminate industrial school sentences, placed boys on probation for year, ordered them to report each Monday a.m. to Waltham fire chief, who assigned 'em three hours of any hard labor that happened to be handy! It was a hot summer! Maybe the punishment didn't fit the crime, but it prob'ly had more salutory effect than if they'd been jugged.

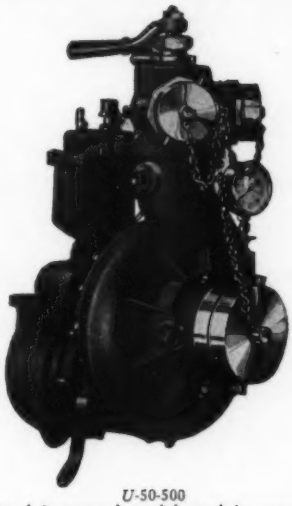
* * *

Hot Off the Ticker

Philadelphia showed its "good neighbor" policy in that big Camden fire, which incidentally demonstrated, again, the folly of clustering combustible dwellings so close to factory buildings. . . . Thanks to Brother Sprangers of the Quaker City, we learn that Engs. 17, 33, 8, 27, 21 Truck 23 and Chief of 2nd Batt. of that City's F. D. went "across the water" to help Camden. . . . N. Y. F. D firemen had to cut through heavy concrete to rescue eight injured persons from fallen elevator. . . . Well, Well! Eng. 21 at 216 E. 40th Street, New York City, since 1881, will move to new house at 238 E. 40th Street, to make way for an exit to new Queens Midtown Tunnel. We remember two year's busy service as "Sargeant" of the old Auxiliary Corps, N. Y. F. D. at old Eng. 21. Where are you now, Cap's McLaughlin, Frohmert, Lieut. Paul and all the other Brothers? Mike Comisky, then a high private in the rear ranks is Capt. of Eng. 26; another of our old pals holds down an important job in the Muni' Building . . . and there's Lieut. Frederick, now at Eng. 65, an old "21'er" who holds plenty records for being knocked out in line of duty. To all the old-timers of Eng. 21, wherever they may be, SALUT!—and "30." . . . The third fire in two days drove 1,200 boys and girls of P. S. 157, N. Y. City, into street, resulting in questioning of numerous pupils. . . . When a citywide revival was held in Paris, Tenn., the local Brothers co-operated by sounding fire siren each evening at 6 p.m. to remind all residents of the revival services. . . . Pyromania, according to Fred Carlson, Fire Marshal, Oakland, Cal., causes $100,000,000 worth of fire losses in U.S.A. annually; he claims pyromaniacs are found even among policemen and firemen. You're telling **us,** Marshal! . . . Fire razed Federal P. O. and three business buildings at Tijuana (Mex.) destroying all court marriage records. That may be tough on some of those movie stars. Incidentally, Brothers from American side of Border went over and helped control fire. . . . Seven fire captains of Hoboken, N. J., were suspended for "failing to pay their just debts." . . . When a tractor upset on his father's farm, Carl Spoth, 16, near Amherst, N. Y., was burned to death in ensuing fire . . . When flames burst from projection booth of motion pix theatre in Sogamoso, Columbia, ensuing panic resulted in death of 20 children, serious injuries to many more. . . . We unnerstand Ernie Lombardi of Cinci' Reds has been made honorary member of Cincinnati F. D. Well, well, "Old Schnozz" must be just about at the "beak" of his career. . . . First report of a fire in a "trackless trolley," yclept "Curbliner," was received from E. L. B., who reports short-circuit did little damage. . . . 'Tis said late King Edward of England, while Prince of Wales, had passion for fires. So, too, did his brother, the Duke of Sutherland. Once the brothers attended a swank party dressed as firemen. . . . With split-second timing, Omaha, Neb., F. D. Rescue Squad placed an "iron lung" containing a 32-year old farmer aboard train en route to University of Iowa hospital. Capt. Ben Meister of Squad accompanied invalid to hospital. . . . "U. S. Firemen are awake to defense duty" sez Fred W. Barr, Pres., "International Assn. of Fire Fighters." We hope so, but we dunno . . . New York City firemen honored their nine brothers who lost lives in line of duty during past twelve month.

Barton Front Mounted — AMERICAN-MARSH PUMPS — Barton American Midship

FIRE APPARATUS CENTRIFUGAL PUMPS



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Duplex Multistage 500
Offered in single and duplex multistage models 500, 600 and 750 G.P.M. capacities.

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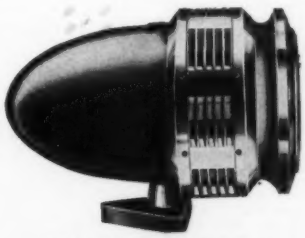
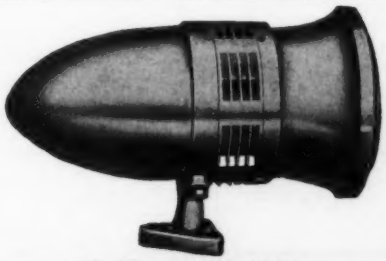
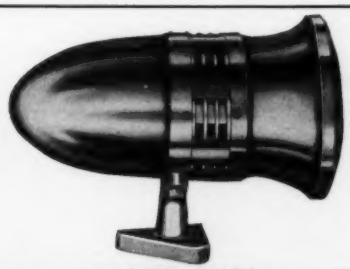


NO. **30** SENIOR SIREN



NO. **20** JUNIOR SIREN



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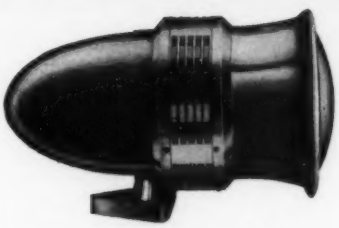

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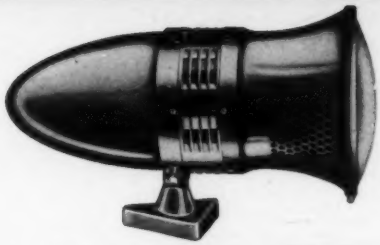

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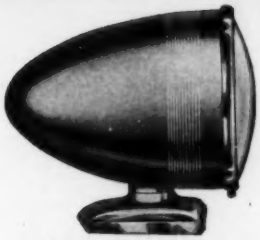

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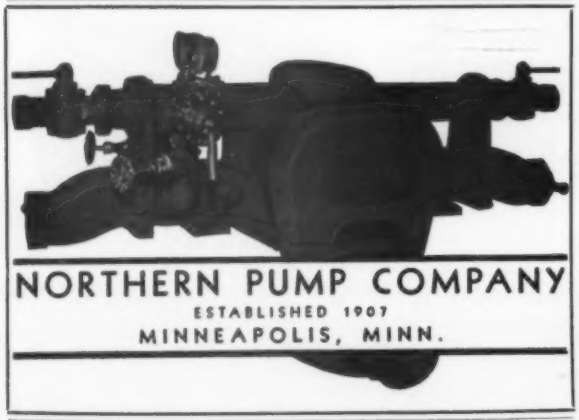

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ESTABLISHED 1907
MINNEAPOLIS, MINN.

ANOTHER NATIONAL PUMPER

A 750-gallon triple combination pumper recently delivered to Zanesville, Ohio, fire department.

NATIONAL FIRE APPARATUS CO.
Galesburg, Illinois

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933, OF FIRE ENGINEERING, published monthly at New York, N. Y. for October 1, 1940.

State of New York } ss.:
County of New York }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared I. H. Case, who, having been duly sworn according to law, deposes and says that he is the business manager of FIRE ENGINEERING and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Case-Shepperd-Mann Publishing Corp., 24 West 40th Street, New York, N. Y.; Editor, Fred Shepperd, 24 West 40th Street, New York, N. Y.; Managing Editor, Fred Shepperd, 24 West 40th Street, New York, N. Y.; Business Manager, I. H. Case, 24 West 40th Street, New York, N. Y.

2. That the owner is: Case-Shepperd-Mann Publishing Corp., 24 West 40th Street, New York, N. Y.; I. H. Case, 24 West 40th Street, New York, N. Y.; Fred Shepperd, 24 West 40th Street, New York, N. Y.; Karl M. Mann, 24 West 40th Street, New York, N. Y.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

I. H. CASE.
Business Manager.

Sworn to and subscribed before me this 23rd day of September, 1940.
[Seal] WILLIAM H. TOPHAM,
Notary Public.
My commission expires March 30, 1941.)

PROMOTIONAL STUDY COURSE

Herein is presented a series of definitions, questions and answers designed to aid fire department officers in preparing themselves for promotional examinations. In this department, which appears monthly, will be included questions typical of examinations held throughout the country.

The answers below are to questions appearing in the October issue:

1. Vertical ducts.
2. They carry fire over entire building, sometimes permitting it to drop down between studdings.
3. Yes.
4. On ground floor to cover basement stair entrance.
5. To rear outside basement stairs.
6. Make survey of entire building to make sure that no concealed fire remains.
7. Between floor beams or in attic.
8. No, it is better to throw them to the street, where fire may be extinguished without water damage.
9. No, for this makes unnecessary water damage. Dip ends of burning rags, etc., in utensil containing water.
10. They should be opened up and inspected for concealed fire.
11. Because the fire rises and because doors leading to stair hall are usually left open.
12. Where conditions permit, ladders are usually placed at the leeward side.
13. Take nobody's word, but make sure of it yourself.
14. Exposure hazard to buildings in neighborhood from flying embers.
15. Extinguishing large quantities of burning film.
16. Low buildings.
17. Poisonous gases and gas explosions.
18. Yes.
19. Water.
20. Lumber, upholstery materials, and flammable volatiles, used in painting operations.
21. Solution:

    First average, and then combine the two parallel 2½-inch lines.
    $600 + 400 = 1000 \div 2 = 500$ ft. aver. length.
    Factor for combining two parallel lines is 3.6
    $500 \div 3.6 = 139$ ft.
    Add 100 ft. line: $139 + 100 = 239$ feet, length of combined line
    E.P. (Hyd. P) = N.P. x (1.1 + KL)
    K = .248
    $L = 239 \div 50 = 4.78$
    E.P. (Hyd. P) $40 \times (1.1 + .248 \times 4.78)$
    $= 40 \times (1.1 + 1.185)$
    $= 40 \times 2.285 = 91.4$ pounds.

    This hydrant pressure is sufficient to overcome friction loss and give nozzle pressure, but it does not take into account the back pressure due to the elevation of the nozzle.

    Nozzle is 3 stories above hydrant outlet, or $3 \times 12 = 36$ feet.

    Back pressure $= 36 \times .434 = 15.6$ pounds.

    Corrected hydrant pressure is then $91.4 + 15.6 = 107.0$ pounds.
22. Move patient to point of safety and summon physician, or department surgeon.
23. Flow from artery is bright red, and spurting; flow from vein is dark red or purplish and flows with a smooth stream.
24. By applying pressure at the point of bleeding.
25. Apply cold cloths or cracked ice over nose and at the back of the neck.
26. To prevent infection.
27. Cover the hands with several folds of surgical gauze.
28. With a piece of surgical gauze moistened with turpentine or benzine.
29. Only for very small wounds or in special cases where its use seems imperative.
30. Wound should not be bandaged too tightly unless necessary to stop bleeding.
31. First boil the penknife blade in water for ten minutes, or pass it once or twice through the flame of a lamp.
32. Slowly; so that the hosemen may have chance to brace themselves against rising nozzle pressure.
33. Slowly; to prevent water hammer in mains.
34. It heats the water to excessive temperature.
35. It will cause engine to lose its priming.
36. No. At least 3 to 5 pounds pressure should be maintained on the intake side.
37. Yes; to permit immediate access to parts for making quick adjustments.
38. In cold weather.
39. The piston pump.
40. Sulphur.
41. Wood pump manufacture, rubber compounding, and production of sulphuric acid.
42. In carboys, iron drums, glass bottles and metal tank cars.
43. Yes.
44. Because of its explosibility.
45. Vegetable, animal and mineral oils.
46. No.
47. No.
48. Yes. Both induce spontaneous ignition.
49. Benzine, fuel oil, gasoline and kerosene.

Noted Fire Buff Passes On

One of the founders of the Philadelphia Second Alarmers, a man who followed the fire game as no other person has done, a real friend of the entire personnel of the Philadelphia Bureau of Fire, in the person of Tommie Taaffe, passed away at the age of sixty-four on October 16.

Loved and respected by all who knew him and worked with him at fires, serving hot coffee at winter fires, or lime water at hot, summer fires, Tommie was always the same. He believed in helping the other fellow, and always had a friendly handclasp and a cheery word for everybody.

In December of 1921, while at an extra alarm of fire, he and a few others first conceived the idea of forming an association to serve coffee to the firemen of the city. Plans were made, and the association progressed steadily forward.

Tommie knew most of the city's fire boxes from memory, and could give dates and details of all big fires in the city since the time of the first paid department in 1871. His records were complete on the history of these fires of the past. On October 1 he had retired from the U. S. P. O. service, where he had completed thirty-two years as a clerk.

A Guard of Honor, representing the Bureau of Fire, consisting of Deputy Chief William Simmler, and Battalion Chiefs, George Ferrier, Wm. McKnight, J. J. Laughlin, Howard O'Drain, and James Eckert, was present at the funeral. EDWARD H. SPRANGERS.

Fire Apparatus of Palm Springs, Cal.

The truck at the right is the one exhibited at the I. A. F. C. convention at Spokane, Wash., by the Mack International Motor Truck Corporation. Included in the picture from left to right are: Dick Cornell, Fire Engine Division, Mack Company, Los Angeles; William Leonesio, Chief, Palm Springs Fire Department, Palm Springs; Ray Sorum, Fire Commissioner, Palm Springs, and John Kline, Ex-Commissioner, Palm Springs Fire District.

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Correspondence

Praise for Editorial

To the Editor:

Your editorial on page 497 of the October issue was a grand thing. If it doesn't wake up officials, nothing else will.

We berate others for lack of foresight in prevention of fires and fail in our own back yard. Two years ago was an adequate time to begin all this preparation, even now we have an even chance to do something.

Another thought: "Why does the army send one single private to learn about fire fighting from our departments, a private who will be in no position to command any operations? Wouldn't it be better to send officers, or better still to let us send some of our surplus Deputy Chiefs to important army and naval posts to bolster defenses against fire attack? W. H. T.

ADT System Effective

To the Editor:

Charles Geiger's account of the fire in the California Building at the Golden Gate Exposition appearing on page 523 of the October issue of FIRE ENGINEERING omits a most important fact which is of considerable interest because undoubtedly it accounts for the exceptionally heavy loss.

The article states: "The blaze apparently started in the east section of the building. It spread quickly up the east wall to the roof, touching off the automatic fire alarms of the A. D. T. Company. About the same time, one of the Island guards saw smoke appearing from a rear window and turned in an alarm."

From this it would appear that the section where the fire originated was protected by an A. D. T. Automatic Fire Alarm System. This, however, was not the case, and to correct the record, I refer you to the report on the fire, dated August 24, 1940, issued by the Board of Underwriters of the Pacific. This includes the following:

"Several months following completion of the original structure, a one-story frame addition 16 feet wide by 135 feet long and fifteen to twenty-four feet high was constructed against the east wall of the building, adjoining and communicating with a shallow stage used in connection with the ballroom.

"The building as originally constructed was protected by an approved installation of Aero automatic fire alarm service. This protection, however, was not extended to the frame addition, although recommendations were made that a circuit be installed to protect this fire area."

Even under these circumstances the Aero System detected the fire as soon as the heat reached the protected part of the building, the alarm preceding an alarm from an outside A. D. T. Manual fire alarm box. It is apparent, however, that the alarm would have been received much sooner if the section where the fire started had been Aero protected. Under "Conclusions," the Board report states in part, "Failure to protect a small area *nullified the effectiveness of the automatic fire protection service in this instance.*"

As you probably know, all of the principal buildings at the exposition originally were *completely* equipped with the Aero automatic fire alarm system. In all cases where this complete protection has been maintained, fires have been automatically detected and reported with such speed and promptness that losses have been negligible. In no case has any fire starting in an Aero protected area at this exposition resulted in a loss of more than $500.

The performance record of the Aero automatic fire alarm system at the Golden Gate International Exposition, the New York World's Fair, the Chicago World's Fair, and other great expositions of recent years, furnished conclusive proof of the value of such protection in providing prompt detection and speedy and accurate reporting of fires under the most drastic circumstances. The record of the Aero system in all types of buildings throughout the country is equally noteworthy.

I feel sure that your readers will be interested in knowing all the facts in connection with this fire which in our opinion demonstrate the great value of complete automatic protection. I shall therefore appreciate it if you will bring to their attention in the next available issue a corrected account of this fire.

Very truly yours,

E. A. WARD,

Executive Vice President, A. D. T.

Election of Officers

To the Editor:

I have read with interest the discussion recently held in the Round Table of your magazine about the methods of electing or appointing officers of the Volunteer Fire Organization. In our section, there has developed a situation that, while extreme, may illustrate what may occur to the detriment of those who the Department is supposed to protect.

Our section of the state contains very few incorporated cities or villages. Most of the area has been organized into rural fire districts as provided in the town law. The voters of the districts elect their Board of Commissioners to administer the affairs of the district and to provide it with fire apparatus and other protection. Under the law, they have certain duties and powers. One of these is that they have to approve the officers elected by the fire companies in their district. Where the Commissioners are also members of the Department, this works out well. In the case in question, none of the Board are members of the outfit. Here is what happened.

At its recent meeting, one of the departments in our county held its annual election, and, as required, submitted their choice to the Board for approval. The Board refused to approve the name submitted, declaring that the Chief was incompetent and and unfitted for that office. They gave the boys a certain time to hold another election, or the members of the Board would appoint officers of their choice.

The members of the Department decided to hold fast to their choice, and the Commissioners made their appointments. Now we have the situation of two sets of officers, one that the mem-

bers will not recognize and the other set that they have elected. The Commissioners have ruled that the trucks cannot be taken out unless their men are in charge. As a result, no one responds to a fire, and help has to be called from another district.

The Department delegates to the County Association meeting stated their case at the last meeting of that body and tried to have the power of approval removed from the Commissioners. While considerable discussion and some heated words were expressed, the organization dodged the issue. However, it has been discussed in the meetings of most of the companies in the area, and sides are being taken which may cause trouble in the future. If we were to talk with most any member of this Department, we would find that in his mind he feels that the Board was not too far off in their estimation of the man they refused to approve. However, there is a feeling that the Board acts too bossy.

As I said at the beginning, this may be an unusual case, but it has actually happened and may occur again elsewhere. I do not submit it with the idea that a Fire Department should not elect its own officers, but that no matter what the system, utmost care should be used.

DEAN E. WRIGHT,
Woodbourne, New York.

Gonzales, Tex., Fire Department

To the Editor:

Gonzales is one of the oldest towns in Texas, being 104 years old. The first shot for Texas independence was fired here, and as a result, Gonzales is known as the Lexington of Texas.

The population of the town is about 5,000. Our Fire Department is composed of volunteers with three paid drivers. The department is supported by monthly contributions from citizens and business men. The income from these contributions averages about $350 a month. The department's apparatus consists of one 750-gpm pumper and hose truck, a 350-gpm pumper and hose truck, a hook and ladder truck, and a 300-gallon booster tank truck with a 200-gpm pump. The equipment is owned by the town of Gonzales, but the town does not run it in any way; therefore the department is free from politics.

The water pressure at the hydrants ranges around seventy pounds per square inch, which enables us to use soft suction hose at all times. At first we used a ten-foot piece of hose and kept it connected to the pump at all times. In some instances it was necessary to turn the truck or back it up which caused delay, and was dangerous to the men at the back of the truck. In recent years. we bought a twenty-five-foot section of three-inch soft suction hose and placed two and a half by three-inch adapters at each end. The hose is left connected to the pump at all times and is folded on the running board. This length of hose enables us to stop the truck in any position and to reach the hydrant, either over, under or around the end of the truck. Departments that do not have the water presure and supply that we do cannot use such a set up.

About seven years ago, we had a 300-gallon tank booster truck built with a 200 gpm pump. It was certainly turned

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★ AT RECENT OFFICIAL TEST IN TRAINING SCHOOL ATLAS LIFE NETS "SAFE LANDED" IMPACTS THAT NO OTHER NET COULD WITHSTAND ★ ★ ★ ATLAS LIFE NETS ARE THE ONLY NETS WITH AN EXCLUSIVE, PATENTED DUAL SHOCK ABSORBER SYSTEM ★ ★ ★ NO STRAIN ★ ★ ★ NO INJURIES ★ ★ ★ ATLAS LIFE NETS ARE USED THROUGHOUT THE COUNTRY BY LARGE AND SMALL DEPARTMENTS ★

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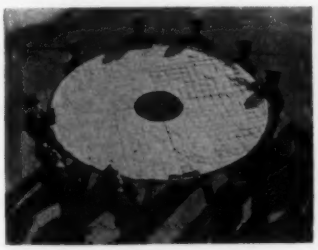
When there is a person trapped in smoke and flames high above the ground, beyond the "safe reach" of ladders, you can't take chances with *just any net.* You need an engineered net . . . a "Life Saving" Net . . . an ATLAS LIFE NET . . . the net that always receives the "Life Saving Call." *Send for new bulletin!*



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That is the quantity ordered by one city within one year.

All shipments being made on time specified; some ahead of schedule . . . not one single section rejected, and considerably more than half of the quantity has already being shipped.

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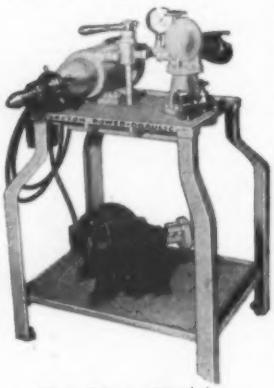

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Phone: CAnal 6-3311

out to be a man and money saver. In the past, general alarms were turned in for small minor fires, but now the tank truck responds to these small fires. After witnessing the success that we had with this tank truck, neighboring towns and villages had tank trucks added as part of their departmental apparatus.

CHIEF C. E. INCE

"Smoke Pump" Used Twenty Years Ago

To the Editor:

In the July issue of FIRE ENGINEERING, there appears an article on the use of smoke pumps by fire departments. This article is not entirely correct.

To Chief Ed. Dahill of New Bedford, Mass., should go the credit for first developing a practical smoke pump. This smoke pump has been in use for more than twenty years. Chief Sinnot of Boston, Mass., was the next one to have a smoke pump made. Next came the New York smoke pump, which was developed by a personal friend of mine. This pump could blow fresh air into a building or suck out smoke.

This light and very efficient smoke pump, which could be carried anywhere by two men, was water driven for two reasons: water is always available at fires, and the gases of incomplete combustion are explosive. If a pump is run by gasoline motor or by electricity, there is always the danger of a spark starting a smoke explosion. After the presentation of these pumps to the New York Fire Department, they were rendered useless by the substitution of a small gasoline motor which does not operate them to capacity. Before the motors were changed, the pump performed creditably at a number of fires.

W. F. CONRAN

Smoke Exhausters and Blowers

To the Editor:

I have read your article on "What Progress in Exhausting Smoke at Fires" which appeared in the July, 1940 issue of FIRE ENGINEERING. It shows that Fire Chiefs generally know that a smoke ejector is badly needed in every Fire Department, but they are in doubt as to its feasibility. However, I would like to give you my opinion on the best method of clearing smoke from a basement.

I believe that the exhaust fan is far ahead of the blowing method. When fresh air is blown in, it is blown in from only one opening, and the results may be hazardous. It would start the fire upward through any opening. When an exhaust fan is put into operation it is placed at one opening and drafts of fresh air enter the room through a number of openings. Thus, in this case, the conditions are reversed.

In commenting on the heading "Short Circuiting the Air," this condition is caused by a lack of understanding as to the proper use of a smoke ejector. A study of the proper methods of ventilation would change the minds of many who believe that the blower is better than the exhauster. When a smoke ejector is used in the front of the basement of a building, openings must be made in the rear, never in the front where the exhauster is drafting. The openings close to the exhauster should be made air tight, for if they are open, the air will travel directly to the fan carrying little or no smoke with it. However, openings on the opposite side of the basement from the ejector should be opened up as soon as possible. The fresh air coming in from these openings, travels across the basement to the exhauster carrying a large amount of smoke with it.

Windows on the same end that the exhauster is operating from should never be opened until working conditions permit. Do not misunderstand me, because I speak of smoldering fires, where the department arrives before it gets hot enough to shatter all the windows around the basement. A smoke ejector is good only at fires in their early stages; an incipient fire.

Soon there will be a small portable smoke exhauster on the market that will make the Fire Chief smile for instead of exhausting about 3,500 cpm, they will be able to exhaust from 8,000 to 70,000 cpm according to the size of the fan. This portable ejector can be operated from a power plant of a squad wagon.

Small smoke ejectors are in their experimental stage and will be for some time. but rapid progress is being made to market a standard type that will be efficient for all purposes.

CAPTAIN L. C. MOORE
Sacramento, Cal.

Responding to Fire Outside the City's Limits

To the Editor:

Here is a highly important subject, one about which in my opinion, something should be done without delay. The practice of small city Fire Departments, possessing limited equipment, responding to fires outside their corporate limits is a dangerous one. One of these days, while they are away responding to such a fire, the unexpected fire at home is going to break out and some one is going to pay dearly for robbing the taxpayers of the city of the protection for which they have paid and to which they are entitled.

While not offering a specific recommendation, I think that the National Board and the various state fire insurance commissions should get together and adopt a common, general regulation which should be submitted to all protected cities for their consideration. I am convinced that unless some such common plan is formulated and submitted, we are not going to obtain any substantial relief.

CHIEF V. F. FRITZ
Victoria, Tex.

Impostors Pose as Fire Experts

To the Editor:

Traveling through municipalities in this country are certain groups making surveys. They are posing as experts on the fire service and are making recommendations conflicting many times with the experience of a Chief of many years standing. Of course, these organizations are purely commercial and sell their services for a price. Their recommendations are generally down, not up, in regards to equipment and those things allied with the fire service. Unless checked there is no question but what they will do considerable damage.

The leadership of the fire service and

everything allied with it belongs to the men who have come up through the ranks and not to these correspondence school individuals who seem to take unto themselves divine wisdom. Unless checked, they will do untold injury to the fire service and the fire service of the entire country should be warned of what will result from a survey of a fire department by these inexperienced groups who are making surveys of this very important department of government.

The public should be educated to the fact that the National Board of Fire Underwriters, and the Fire Chiefs themselves, are the recognized authorities in all matters that have to do with the fire service and the only ones that can be trusted for a fair, intelligent and safe verdict.

Chief SELDEN R. ALLEN,
Brookline, Mass.

WAR FARE

Alarms and Discussions Clipped and Culled From the War News of the Day, of Interest to the Fire Service.

Roi B. Woolley

Giddy Fire Buckets

Touring the cellars of Buckingham Palace, London, a reporter found the flossiest fire buckets known to history. They were a brilliant scarlet, with the royal monogram shining in gilt paint. Close inspection, however, disclosed that the monogram was that of George V.

* * *

Quick—the Bomb Bus!

Believe it or not, New York City has a container to carry "live" explosives thither, or thence, to where they can be safely "detonated." It's called a "bomb truck" and grew out of the tragic World's Fair bomb explosion. Engineering Staffs of F. D. and P. D. reported to have designed the job.

* * *

Hot Off the War Ticker

According to Rep. Dies, the House of Representatives Committee Investigating Un-American Activities knew a year ago of a plot to blow up the Hercules Powder Co.'s plant at Kenvil, N. J. Speaking of his warnings conveyed to the Government, he said **"They laughed at us."** . . . The blitzkreig, which has made civilians in England front line troops instead of soldiers, has raised new problems. Auxiliary firemen, for instance, complain that when injured on duty they are treated as ordinary civilians. If they are killed (and over 50 have been killed in the past 60 days, with some 600 injured) their families must meet the funeral expenses. Gossip says that they get the equivalent of $15 per week. . . . Fireworks is no longer permitted anywhere near the Kenvil, N. J., plant of the Hercules Powder Co. . . . In London (Eng.) when two incendiary bombs fell on the front doorstep and beside garage of Mrs. Kennedy's home, she smothered one bomb with a bucket of sand and covered the other with a helmet. To her amazement that smothered it. . . . Speaking

The New Acme Fireman's
ALL PURPOSE GAS MASK
protects against ALL GASES and SMOKES

1. Protection against Carbon Monoxide and all other gases.
2. Complete protection against Smokes, Fumes and Mists.
3. Full Vision. Wearer has maximum Side Vision and, of greatest importance, he has also full *Downward* Vision. Safety and the ability to *see* to perform his duties are thus provided. The safety-glass Lenses are non-fogging.
4. Automatic Timer, which shows clearly the amount of service time remaining in the Canister.

Acme Type FD is the only All Purpose Mask ever manufactured that protects against all gases along with complete protection against all Smokes and Fumes.

If your present canisters are supposed to protect against Smokes and Fumes, are you sure that they do? Request, on official stationery, Acme Canister Smoke Tester which will be mailed free with simple instructions.

ACME
PROTECTION EQUIPMENT CO., INC.
3604 Liberty Ave. Pittsburgh, Pa.

JANESVILLE QUALITY FIRE COATS

There's a reason why so many firemen have changed to JANESVILLE QUALITY. Write us about our OPEN ACCOUNT offer to members of paid and volunteer fire departments.

RUBBER AND DUCK COATS AND BUNKERS
We also manufacture the New White Striped Safety Coats

Write for Illustrated Folder

JANESVILLE APPAREL CO.
JANESVILLE, WIS.

Amazing Increases in *Fireman Efficiency* with
WS MASTER-LIGHTS!

TRY THEM NOW-FREE!

Chief, in those vital first 5 minutes at the fire it's **Fireman Efficiency** that counts! **Your men must do their work well and quickly.** They **can,** with WS MASTER-LIGHTS! The powerful WS lets your men SEE indoors and out, even in heavy smoke! Each man works **faster—better—more efficiently.** Chiefs tell us, "Measured by results, giving firemen WS MASTER-LIGHTS is like having an extra squad at every fire!"

Why the WS Is So Helpful!

The WS is HIGH POWERED and CONVENIENT TO USE. 250,000 c.p. beam—**over full mile range**—yet weighs only 12 perfectly balanced pounds complete with rechargeable battery! 2-beam bulb. Battery charge gives 8 continuous hours high-beam or 24 continuous hours work-beam light—much longer in normal intermittent use.

Test Them At Our Expense!

Let a 30-Day Free Trial **prove** that WS MASTER-LIGHTS increase your firemen's efficiency! Just clip, fill in, and mail coupon below. Your lights will be sent promptly. When you decide to keep them, we'll bill your department any time you say within 6 months. List price of WS only $45.00 F.O.B. Cambridge. You'll find they soon pay for themselves in reduced fire losses! Send for yours NOW!

Carpenter Mfg. Co., 200 Sidney St., Cambridge, Mass.
Send me, at no obligation to myself or department, the number of WS MASTER-LIGHTS noted below for 30-Day Free Trial. Also, send me free folder on other MASTER-LIGHTS that will help me.

No. of WS MASTER-LIGHTS.....
Name & Title.....
Department .....
City & State.....

THANK YOU!

WE want to express our gratitude to the fire fighting profession for the splendid reception accorded us as a result of the announcement of the formation of our new company, and to assure the fire engineering profession that we are thoroughly appreciative of their goodwill. The goodwill extended so freely has made us most happy, and it is our sincere desire to show our appreciation by assuring our future customers that our products will merit a continuance of the faith manifested in us. We hope shortly to announce production on several distinctively new Wooster Brass fire fighting accessories; and we invite inquiries covering general fire department appliances.

It is our desire to supply the fire profession with the highest quality equipment at lowest possible prices. Your equipment problems will be our problems; and it will be a pleasure to serve you.

President

THE WOOSTER BRASS CO.
WOOSTER, OHIO

DRY *YOUR* HOSE
The MODERN Way

with the new
CIRCUL-AIR
The Electro-Mechanical
FIRE HOSE DRYER
It's *faster, easier, better* than any other method . . . dries without drudgery . . . and *air-conditons* as it dries . . . economical, too.
1941 models now available.
See your Hose Salesman or write to . . .
THE CIRCUL-AIR CORP.
303 Dwight Bldg. Jackson, Mich.

of bomb scares: Threats to blow up Temple Beth-El, North Bergen, N. J., synagogue proved empty so far. . . . Fake bomb containing wooden sticks resembling dynamite, tied up traffic on Williamsburg Bridge, New York City. . . . Steel noses of two artillery shells, each about two feet long were found on a grave in St. Michaels Cemetery, N. Woodside, L. I. Two packages, each containing a half dozen empty bottles threw scare into Detective Joseph Whitmore and Embleton Leighs, a F. D. marine engineer of Eng. Co. 77, N. Y. F. D., after they stumbled on supposed explosives in subway. They rushed 'em to nearby restaurant, dunked 'em in pails of water, notified bomb squad, which "fluoroscoped 'em" only to find bottles instead of bombs. . . . In Philadelphia, fire of "unknown origin" caused scare in Cramp's shipyards. . . . One man killed, nine others injured in explosions at chemical plant, Terre Haute, Ind. . . . A terrific explosion of resin and oils shattered two buildings of Penna, Independent Chemical Corp. plant at Clairton, Pa. Yeah, they have war orders. . . . Three Hercules Powder Plant workers who survived recent fatal blast at Kenvil received threatening letters and postcards. F.B.I. notified. . . . As a Picatinny Arsenal workman drove homeward in his car, a 38-cal. bullet was fired into it. . . . Nine-state alarm sent out for thieves who stole 14 cases of dynamite from a hardware store at Amsterdam, N. Y. (we wonder what that amount of explosives was doing in a hardware store!) . . . When fire siren of Litchfield, Conn., let go it panicked a Mrs. J. Matthews and her three children, all refugees of England. They though it was an air raid alarm! . . . Police of Bridgeport, Conn., advised of plot to blow up plant of Remington Arms Co. and lots more to come when we get the space!

Boston Post Host to Firemen

American Legion Post No. 94, composed of firemen of Metropolitan Boston, were hosts to more firemen during the convention than any other organization in Boston. They opened a "Dug Out" on Rowes Wharf, but the crowd was so great that an appeal had to be made to the Building Department to make room for the new comers. Many thanks went to Frank Marr, the Post Commander, and his committee for a splendid show and get-together, and to Commissioner W. A. Reilly, Chief Samuel Pope of the Boston Fire Department, and to Chief Bowers and President Mine of the Boston Protectives for their work in housing so many homeless firemen.

The largest single organization of firemen was the New York Department, Post 930, with more than five hundred members in charge of Deputy Chief Harold Burke.

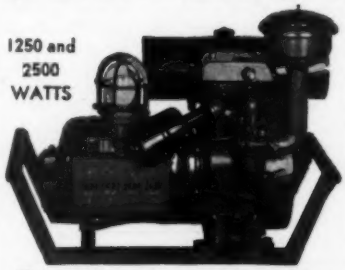
GORDON R. MULLINS.

Please Write Again

Recently William Paul Babcock, Nyack, N. Y., received a card from a Chief in New Hampshire asking for detailed information about first aid. The card was misplaced and Mr. Babcock has asked that the Chief write to him again.

"U.S." PORTABLE LIGHT PLANTS

1250 and 2500 WATTS



This 1250 watt, portable unit has been designed expressly for fire department use. It is small, light, compact and equipped with carriers for easy portability out on the job. Air-cooled 4-cycle engine 2⅝" bore x 2⅝" stroke. 2.4 H.P. 2 gallon fuel tank. Quick starting. Also 2500 watt size.

LARGER SIZES AVAILABLE
Write for Catalog.
UNITED STATES MOTORS CORP.
430 Nebraska Street, Oshkosh, Wis.

INVESTIGATE!

EACH month, the advertisers in FIRE ENGINEERING are telling you how their products can help solve your fire fighting problems and improve the efficiency of your work.

It may pay you big dividends in savings of time and money to read these advertisements carefully, and then investigate these products before you buy. The editorial pages will tell you *how* to do things—the advertising pages can tell *what* with. It's part of your job to know the equipment as well as the methods!

FIRE ENGINEERING
24 W. 40th St. New York City

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A PARTIAL LIST OF ELKHART PRODUCTS

Shut-Off Nozzles
Controlling Nozzles
Turret Pipes
Fire Department Extinguishers
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38 years service in the fire field

Prompt service - Quality products

Send for illustrated folder on the New Elkhart Mystery Nozzle.

ELKHART BRASS MFG. CO.
ELKHART, INDIANA

COVER'S NOD and SHAKE SMOKE MASK

Carry It in Pocket. Slip on in a Jiffy. Positive Protection to Eyes Against Smoke and Saves the Lungs.

WHY GET SICK?

Price $48 per Dozen

Upon receipt of $4.00 one will be forwarded as a sample postpaid.

H. S. COVER
Station A, South Bend, Ind.

Convention Dates

Nov. 20—FAIRFIELD COUNTY FIRE CHIEFS' EMERGENCY PLAN. Monthly Meeting, fire house, New Canaan, Conn. Secretary, John H. Moehring, Belltown, Conn.

Dec. 18—FAIRFIELD COUNTY FIRE CHIEFS' EMERGENCY PLAN. Monthly Meeting, fire house, Springdale, Conn. Secretary, John H. Mochring, Belltown, Conn.

Chief M. B. Farrell Dead

Morgan B. Farrell, Chief of the Bristol, Conn., Fire Department for the past six years, died suddenly at his home in that city on October 19. He was fifty-nine years of age. Death was attributed to a heart attack. Chief Farrell returned home from his office at the Central Fire Station on Meadow Street at 5:30 p.m., and after having supper, he rested on a lounge. A short time later his son, Morgan B. Farrell, Jr., called him but was unable to arouse him. The family physician was called and pronounced him dead.

Chief Farrell was born in Bristol on July 2, 1881. He was educated at the South Side School and the Bristol High School. He worked in local factories and was a well known baseball player. At one time he was a catcher for the Boston National League Baseball Club.

In 1900, Chief Farrell joined the old Volunteer Hose Company of Bristol, which later became a regular company. He was made Captain of this Company in 1921 and in 1927 was promoted to Deputy Chief. In 1934, when the late Chief John Hayes retired, he was made Chief of the Department. Chief Farrell saw the Bristol Fire Department grow from a volunteer group of twelve members to a paid Department of twenty-five regular men and fifteen substitutes.

During his tenure as Chief, the Department was modernized and a Civil Service system of appointments was inaugurated. A school of instruction in fire fighting was established under his direction at the Central Fire Station. He was a member of the New England Association of Fire Chiefs, the International Association of Fire Chiefs, the Fire Chiefs' Club of Connecticut, Connecticut State Firemen's Association and the Hartford County Fire Chiefs' Emergency Plan. He leaves his widow, Mrs. Julia Farrell; a son, Morgan B. Jr.; a daughter, Miss Mary Farrell, and two brothers, Michael and James Farrell of Bristol.

Chief Farrell was the second well known Fire Department head to pass away suddenly within a week in Connecticut. Chief Thomas F. Burns of Bridgeport died on October 9.

THOMAS F. MAGNER.

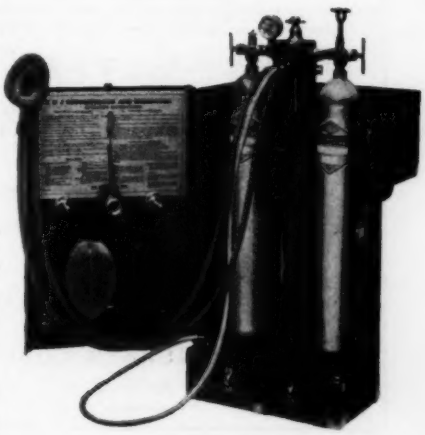
Maryland Takes Preparedness Step

The State Fire Marshal of Maryland has launched a plan to acquaint all volunteer firemen of the state with the methods of fighting fires caused by incendiary bombs. All volunteer fire departments in the state will secure detailed information of the plan from the Maryland Council of Defense and Resources.

★

In any Emergency
Your First Duty is to

SAVE LIVES



The E & J
is America's
Foremost Mechanical
Resuscitator

When you use an E & J, you can be sure that you're using a safe, time-tested automatic breathing machine. The E & J is the choice of Fire Departments, Hospitals, and Industrial Plants, all over the country. Here's a modern life-saving device which you should include in your 1941 budget.

The E & J is the only device of its kind accepted by the Council on Physical Therapy of the American Medical Association.

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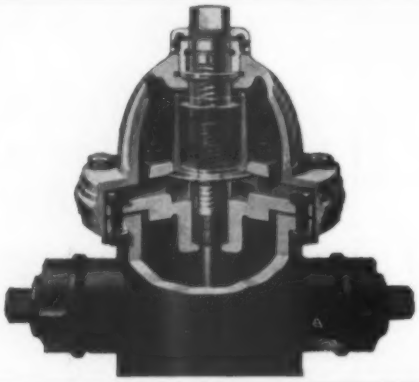


MUELLER-COLUMBIAN FIRE HYDRANTS

The SELF OILING feature of these hydrants is a favorite with Fire Chiefs. They like it because they know the threads cannot rust, it cannot freeze, and the operating nut will always turn easily. There's no time lost hooking up to a Mueller-Columbian.

WRITE FOR FULL INFORMATION

Mueller Co. Chattanooga, Tenn.

HEWITT-GUTTA PERCHA FIRE HOSE

A complete line, including
Wax Treated - Solid Multiple Woven
AND
Single and Double Jacket Hose

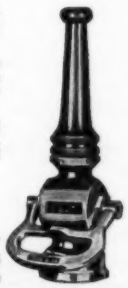
Manufactured by
HEWITT RUBBER CORPORATION
BUFFALO, N. Y
"Territories Available"

CHIEF! Insist on the COLT when buying Shut-Off Nozzles . . . and get the best

The unquestioned durability of the COLT has for twenty-five years been the subject of discussion among fire fighters.

When efficiency is demanded, the COLT has been found to be the easiest to operate, and will stand the severest test of strength and use better and longer than any other nozzle.

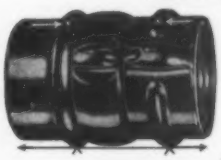
Furnished in three sizes—¾" and 1" for chemical hose, 1½" for leaderline work, 2½" for playpipes. Plain or rubber bumper tips furnished. All shut-off nozzles guaranteed for 5 years.



Write for catalog and name of dealer nearest you or see your regular supplier.

EXCELSIOR BRASS MFG. CO.
217-219 W. Illinois Street, Chicago, Illinois
Manufacturers of Fire Hose Nozzles for 25 Years

This is the new LIGHT WEIGHT BI-LATERAL FIRE HOSE



This hose will stand 900 pounds pressure and weighs but 45 pounds to the section uncoupled.

Here's the new DROP-FORGED rocker lug coupling (not cast bronze), with the swivel-protecting feature.

This coupling will stand several expansions and can be used over and over again, saving your city at least 20c to 30c per foot on future hose purchases.

When in the market, let us show you that we can give you the best service obtainable for the least money.

BI-LATERAL FIRE HOSE COMPANY
20 N. Wacker Drive Chicago, Illinois

EDDY Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience goes into their manufacture and they embody valuable and exclusive features.

Write for the Facts

EDDY VALVE CO.
Waterford, N. Y.

HAHN FIRE APPARATUS

Air-Cooled or Water-Cooled
Powered Apparatus

HAHN MOTORS, INC. HAMBURG, PA.

Valuable Information

All the manufacturers you will find represented in our advertising pages have interesting and valuable data about their equipment which is yours for the asking. When writing, be sure to mention FIRE ENGINEERING.

CLASSIFIED ADVERTISING

Bids Wanted, For Sale and Help Wanted $5 *per inch. Position Wanted,* $2.50 *per inch.*

FOR SALE

Reasonable. One 350 gallon Seagrave fire truck, 4 cylinder, 110 H.P. motor in good running condition, equipped with one 40 gallon booster tank. Reason for selling—capacity too small for our needs. Brackenridge Borough, Pa. J. N. Wolf, Secty.

Manufacturers' Announcements

New Test Set for Hydrants

Northrop & Company, Inc., 50 Church Street, New York, N. Y., announces a new complete test set for making tests for hydrant flows, pressure and loss of head. The complete set consists of a hand pitot, combination hand and clamp pitot, three gauges and adapter for tapped hydrant cap. One gauge has a double scale, reading in pounds pressure per square inch and approximate equivalent in gallons per minute, which makes it possible to take flow readings from 2½-inch hydrant openings directly from the gauge.

The pitots are both equipped with large air chambers and throttling cocks. Also the entire set is put together with ground joint unions without using wrenches or other tools.

The hand set is sold separately as is the combination hand and clamp set. Instructions for practical methods of making hydrants discharge measurements and computing and applying results, are furnished with each set.

Combination Hand and Clamp Set

New Buffalo Sedan for Lewistown

The Buffalo Fire Appliance Corporation, recently delivered a new and improved Buffalo Sedan to Lewistown, Pa. It has sufficient space to seat fifteen men, and accommodates all of the equipment found in a fully equipped piece of fire fighting apparatus.

This fire engine carries a 500-gallon pump, which is readily accessible through large doors on either side of the body. The new model is also built with larger pumps when desired. The Lewistown unit carries, in addition to a 500-gallon pump, a 200-gallon booster tank, standard twenty-four-foot and fourteen-foot ladders, two ten-foot lengths of suction hose, and has room for 300 feet of 1½-inch hose. It carries the Buffalo standard rear mounted reel for ¾-inch hose.

Four compartments, two on either side of the truck, will carry such appliances as door openers, folding stretcher, sledge, roof cutters, wire cutters, salvage covers, floodlights, generator and flood light cable, life belts, lanterns, masks, nozzles, wrenches, hammers, carpenter tools, and a Kerotest cutting outfit. One of its main advantages, it is pointed out, is the fact that the firemen no longer will have to brave the elements on their way to a fire, nor will they run the chance of being thrown off the truck while rounding a turn.

September Fire Losses $21,198,000

Fire losses in the United States during the month of September, according to the estimate given out by the National Board of Fire Underwriters, amounted to $21,198,000. This is the seventh consecutive month that the losses were less than the losses of the corresponding month of last year. The September fire loss is seven per cent lower than that of September, 1939, but two per cent higher than the total losses for August of this year. The nine months total for this year is lower than the nine months total of 1939 by $1,698,800.

Dr. Doody Made Fire Surgeons' President

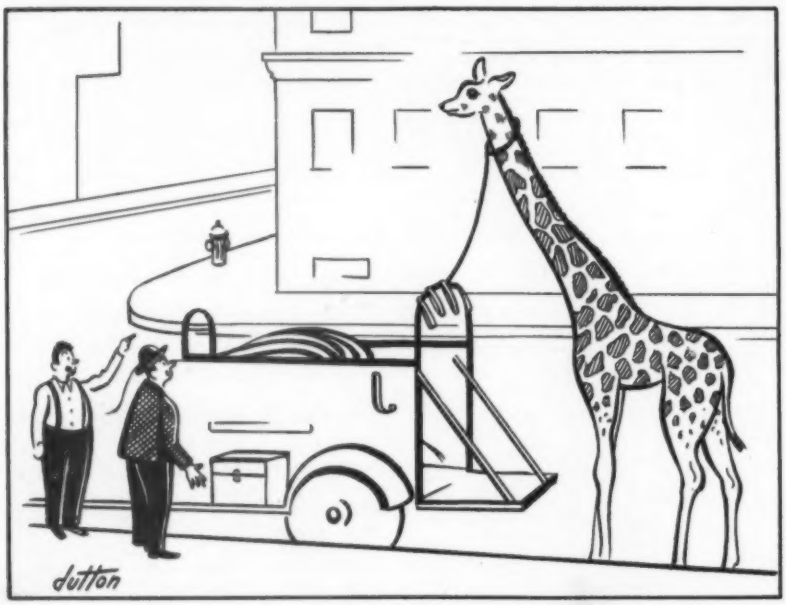
Dr. William M. Doody, Surgeon of the Hudson County, N. J., Police Department, and attending Psychiatrist at the Jersey City Medical Center, was elected President of the International Association of Police and Fire Surgeons and Medical Directors of Civil Service Commissions, at the nineteenth annual convention in Detroit, Mich. He succeeds Dr. Gerald H. McMahon of the Detroit Fire Department.

Others elected were Dr. K. B. Bretzfelder, New Haven Police Department, Vice-President; Dr. J. J. White, New York Fire Department, Treasurer; Dr. H. M. Archer, Deputy Fire Commissioner, Secretary. The new Board of Governors include, Dr. McMahon, Detroit; Dr. Hubley R. Owen, Health Commissioner, Philadelphia; Dr. C. T. Russell, Jr., Philadelphia Department of Public Safety; and Dr. G. L. Wright, Syracuse Fire Department.

Much attention was paid to the subject of "acute carbon monoxide narcosis," and also to the subject of "heart disease propaganda" which was recently spread among fire-fighters to create hysteria among them in making them believe that they had acute cardiac conditions.

Two Views of the Buffalo Sedan Showing the Compartments on the Side, and the Seating Arrangement Inside the Sedan

FALSE ALARMS



"Jones borrowed the ladder to paint his house, so we're using this for second story rescues!"

HELD ACCOUNTABLE

In one of the eastern seashore villages, the general store owner's daughter went down to the seashore for an afternoon dip. She was dragged under by the undertow and as a result, it was necessary to call the local Fire Department to revive her.

After completing the job, the truck passed the general store on its way back to the station. One of the boys on the truck yelled to the proprietor, "I have just resuscitated your daughter."

"Then by George, you'll have to marry her," shouted the owner.

Says one eye to the other, "confidentially, we've got something between us that smells."

LADDER ALONE

An excited female voice came over the phone: "Two boys are trying to break into my room through the window."

"Listen lady, you've got the wrong number," answered a voice. "This isn't the police headquarters, this is the Fire Department."

"I know," she answered, "but my room is on the second floor and they need a ladder."

In the old days, girls used to wear unmentionables. Now they wear nothing worth mentioning.

SEEING IS BELIEVING?

With the advent of the draft, many of the departments have included military drills as part of their daily routine. One day, the boys of one of the southwestern departments were being put through their paces by a tough little drill sergeant.

"Company attention!" bawled the drill sergeant to the awkward squad.

"Company, lift up your left leg and hold it straight in front of you."

By mistake one member held up his right leg, which brought it side by side with his neighbor's left leg.

"And who is the galoot over there holding up both legs?" shouted the hardboiled sergeant.

FIRE SERVICE

Farmer Corntassel retired and moved to the big city. In the morning, after spending the first night in the new home, his wife said: "Well, Pa, hain't it about time you was getting up to build the fire?"

"No, siree," replied the old gent. "I'll call the Fire Department. We might as well get used to these city conveniences right now."

LET'S DRINK A TOAST

Let us drink a toast today
To the firemen we'll never know.
To those who are fighting for life itself
When their cities are all aglow.

Aglow, because of incendiary bombs
Dropped from the heavens above,
By those whose only intent seems to be
To destroy the cities we love.

It's a two to one bet, that soon we'll see
Their names engraved upon stone.
For it seems that death, their reward shall be,
For they're fighting there all alone.

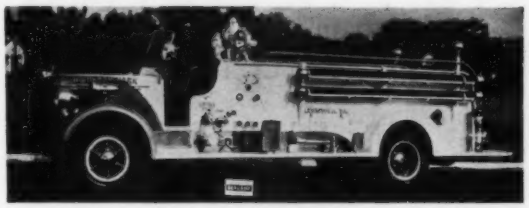
No planes to cover their opening attack,
No blackouts to hide them from view;
No one to speak an encouraging word,
No one to help them through.

Yet they're fighting on, with courage of steel,
Undaunted in very way.
So let's drink a toast, to the finest of men,
The firemen of England today.

CAPTAIN ROY MOULTON
Kansas City, Kans., Inspection Bureau

"They must be her grandmother's; you don't see ruffles anymore!"

SEALAND STANDARD PUMPER



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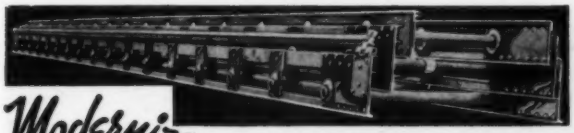

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Their light weight permits men to get into action faster at fires. Their great strength, together with the fact that they bend rather than break suddenly under overloads, makes them extraordinarily safe. Aluminum ladders do not deteriorate in any way—upkeep bills are eliminated. When ordering new trucks or replacement ladders, specify ALUMINUM ladders.

"The FIRST Cost is the LAST Cost"

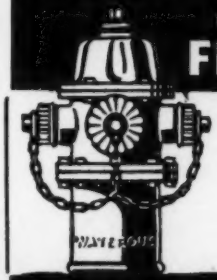
Aluminum Ladder Company

200 ADAMS ST. TARENTUM, PA.

WATEROUS

COMPRESSION

FIRE HYDRANTS



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REPUBLIC RUBBER

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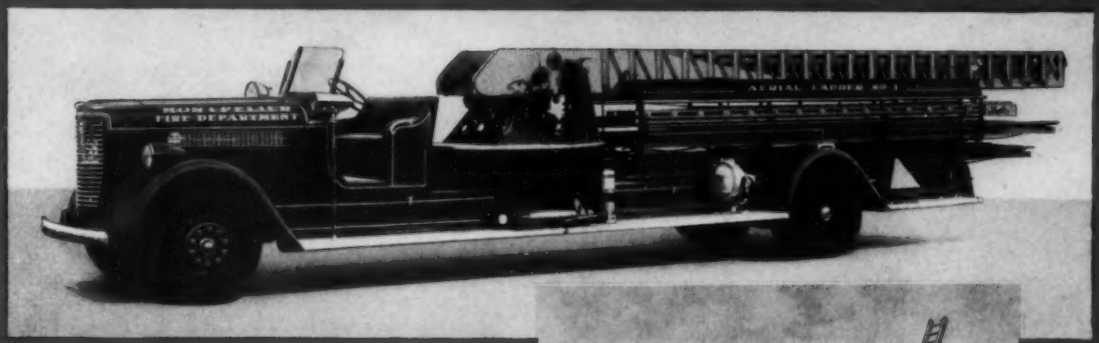
THE PIRSCH 85' SERVICE AERIAL LADDER TRUCK



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